

MHDC Horizontal Ducted Condensing Unit

Models: MHDC 020 A/AR
MHDC 025 A/AR
MHDC 030 A/AR



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Note : Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations, and experienced with this type of equipment.

Caution: Sharp edges and coil surfaces are a potential injury hazard. Avoid contact with them.

Warning : Moving machinery and electrical power hazard. May cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

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Introduction To Horizontal Ducted Condensing Unit

Invisible & Evergreen

To make your condensing unit invisible by installing it above the ceiling with only the supply and return grille exposed to view. This ceiling concealed ducted condensing type of design has made it an “evergreen” design without sacrificing the precious floor space.

Space Saving

The physical height of 436mm is offering greatest flexibility in selecting installation locations.

Flexibility In Installation

The supply and return grille can be selected based on end user or professional interior designer in integrating the HDC unit to their favorite interior design.

Safety

It is of most safe condensing unit to the young ones because HDC is totally concealed above the ceiling. No potential danger can be happened to the young ones.

Aluminium Slit Fin

The unique slit fin on the heat exchanger greatly increases the heat transfer efficiency and thus boost up the unit capacity.

Quiet Operation

Invisible outdoor unit together with sound insulation in compressor compartment greatly reduce noise level by 2-4 dBA compared to balcony mounted units.

SHORT PIPING

Reduce installation cost, improved reliability & efficiency compared to roof mounted units.

ADEQUATE EXTERNAL STATIC PRESSURE

The external static pressure is specially designed to blend in most of the interior design and yet to ensure a sufficient heat transfer capability.

WIDE CHOICES OF INDOOR UNITS

Wide choices of indoor units to meet all kind of application & interior requirements.

Specifications

WALL MOUNTED - MWM F SERIES (COOLING ONLY)

| MODEL | INDOOR UNIT | | MWM020F | MWM025F | MWM 031F |
|--------------------------|----------------------------------|-------------------------|--|---------------------------------------|----------------------------|
| | OUTDOOR UNIT | | MHDC020A | MHDC025A | MHDC030A |
| NOMINAL COOLING CAPACITY | | kcal/h | 4788 | 6048 | 6552 |
| | | W | 5569 | 7034 | 7620 |
| | | Btu/h | 19000 | 24000 | 26000 |
| EFFECTIVE TOTAL POWER | | W | 2209 | 2622 | 2951 |
| NOMINAL TOTAL POWER | | W | 2392 | 2740 | 3069 |
| NOMINAL TOTAL CURRENT | | A | 11.2 | 13.3 | 14.9 |
| POWER SOURCE | | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| INDOOR UNIT | REFRIGERANT / CONTROL | | R22 / CAPILLARY TUBE | | |
| | FAN | FAN TYPE | ANTI FUNGUS POLYPROPYLENE FILTER | | ANTI FUNGUS CROSS FLOW FAN |
| | | AIR FLOW | cfm / L/s | 480 / 227 | 580 / 274 |
| | | FAN MOTOR | | 4 POLES X 20W | 4 POLES X 25W |
| | | RATED INPUT POWER | W | 53 | 57 |
| | | RATED RUNNING CURRENT | A | 0.23 | 0.24 |
| | | FAN MOTOR PROTECTION | | THERMAL OVERLOAD RELAY | |
| | COIL | TUBE | | SEAMLESS COPPER TUBE | |
| | | TUBE PATTERN | | INNER GROOVED | |
| | | DIAMETER | mm/in | 7.0 / 0.276 | 9.52 / 0.375 |
| | | THICKNESS | mm/in | 0.32 / 0.013 | 0.35 / 0.013 |
| | | MATERIAL | | ALUMINIUM (HYDROPHILIC SLIT FIN TYPE) | |
| | | THICKNESS | mm/in | 0.11 / 0.0043 | 0.11 / 0.0043 |
| | | ROW | | 2 | 2 |
| | | FIN PER INCH | | 18 | 16 |
| | | FACE AREA | m ² /ft ² | 0.254 / 2.733 | 0.291 / 3.130 |
| | | HEIGHT | mm/in | 306 / 12.0 | 360 / 14.2 |
| | DIMENSION | WIDTH | mm/in | 1062 / 41.8 | 1200 / 47.2 |
| | | DEPTH | mm/in | 202 / 8.0 | 200 / 7.9 |
| | WEIGHT | kg | 16 | 17 | 17 |
| | SOUND PRESSURE LEVEL - H / M / L | dBA | 45 / 42 / 39 | 47 / 44 / 42 | 52 / 49 / 43 |
| | CONTROL | ROOM TEMPERATURE | THERMOSTAT ELECTRONIC CONTROL | | |
| | | AIR DISCHARGE OPERATION | LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT) | | |
| | CONDENSATE DRAIN SIZE | | LCD REMOTE CONTROL | | |
| | AIR FILTER | | 20 / 0.79 | | |
| | OPTIONAL AIR FILTER | | ANTI FUNGUS POLYPROPYLENE FILTER | | |
| | PACKING DIMENSION | | DUAL ACTION ELECTROSTATIC AIR PURIFYING AND DEODORIZING FILTER | | |
| | HEIGHT | mm/in | 382 / 15.0 | 420 / 16.5 | 420 / 16.5 |
| | WIDTH | mm/in | 1130 / 44.5 | 1267 / 49.9 | 1267 / 49.9 |
| | DEPTH | mm/in | 268 / 10.6 | 260 / 10.2 | 260 / 10.2 |
| OUTDOOR UNIT | COMPRESSOR | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | |
| | | COMPRESSOR TYPE | | ROTARY | ROTARY |
| | | CAPACITOR | µF | 45 | 50 |
| | | LOCK ROTOR AMPERE | A | 55 | 66 |
| | | RATED RUNNING CURRENT | A | 9.1 | 12.6 |
| | | RATED INPUT POWER | W | 1925 | 2230 |
| | FAN | PROTECTION DEVICE | | INTERNAL THERMAL OVERLOAD | |
| | | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | |
| | | FAN TYPE / DRIVE | | CENTRIFUGAL / DIRECT | |
| | | BLADE MATERIAL | | ZINC COATED STEEL | |
| | | DIAMETER | mm/in | 254 x 203 / 10 x 8 | |
| | | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 |
| | | STATIC PRESSURE | mm Aq | 8 | 5 |
| | | RATED RUNNING CURRENT | A | 1.83 | 2.00 |
| | | MOTOR FULL LOAD OUTPUT | W | 373 | 373 |
| | | RATED INPUT POWER | W | 414 | 453 |
| | | TUBE | | S.I.G.C | |
| | | DIAMETER | mm/in | 9.52 / 3/8 | |
| | | THICKNESS | mm/in | 0.36 / 0.014 | |
| | | MATERIAL | | ALUMINIUM / SLIT | |
| | | THICKNESS | mm/in | 0.127 / 0.005 | |
| | | ROW | | 2 | 3 |
| | | FIN PER INCH | | 16 | 16 |
| | | FACE AREA | m ² /ft ² | 0.37 / 3.98 | |
| | DIMENSION | HEIGHT | mm/in | 436 / 17.2 | |
| | | WIDTH | mm/in | 1240 / 48.8 | |
| | | DEPTH | mm/in | 586 / 23.1 | |
| | WEIGHT | kg | 77 | 82 | 84 |
| | SOUND PRESSURE LEVEL | dBA | 46 | 47 | 48 |
| | CASING | MATERIAL | GALVANISED MILD STEEL | | |
| | | THICKNESS | mm/in | 1.0 / 0.039 | |
| | PIPE | FINISHING | | POLYESTER POWDER | |
| | | TYPE | | FLARE VALVE | |
| | | SIZE | LIQUID | mm/in | 6.35 / 1/4 |
| | | | GAS | mm/in | 15.88 / 5/8 |
| | PACKING DIMENSION | HEIGHT | mm/in | 618 / 24.3 | 9.52 / 3/8 |
| | | WIDTH | mm/in | 1347 / 53.0 | 15.88 / 5/8 |
| | | DEPTH | mm/in | 703 / 27.7 | |

- 1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

| | | |
|---------|---|------------------------------|
| S.B.C. | - | SEAMLESS BARE COPPER |
| S.I.G.C | - | SEAMLESS INNER GROOVE COPPER |

CEILING CONVERTIBLE – MCM D SERIES (COOLING ONLY)

| MODEL | | | INDOOR UNIT | | MCM020D | | MCM025D | | MCM030D | | | | |
|--------------------------|------------------------------------|-------------------------|---------------------------|--|--|--------------------|-------------|---------------|-----------------------|-------------|---------------|-------------|--|
| | | | OUTDOOR UNIT | | MHDC020A | | MHDC025A | | MHDC030A | | | | |
| NOMINAL COOLING CAPACITY | | | kcal/h | | 4965 | | 5948 | | 6804 | | | | |
| | | | W | | 5774 | | 6917 | | 7913 | | | | |
| | | | Btu/h | | 19700 | | 23600 | | 27000 | | | | |
| EFFECTIVE TOTAL POWER | | | W | | 2245 | | 2680 | | 2997 | | | | |
| NOMINAL TOTAL POWER | | | W | | 2428 | | 2798 | | 3115 | | | | |
| NOMINAL TOTAL CURRENT | | | A | | 11.4 | | 13.5 | | 15.1 | | | | |
| INDOOR UNIT | POWER SOURCE | | | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | | | | | |
| | REFRIGERANT / CONTROL | | | | R22 / OUTDOOR CAPILLARY TUBE | | | | R22 / INDOOR CAP TUBE | | | | |
| | FAN | AIR FLOW | | cfm / L/s | 590 / 278 | | | 660 / 312 | | | 730 / 345 | | |
| | | FAN MOTOR | | | 4 POLES x 45W | | | 4 POLES x 95W | | | 4 POLES x 95W | | |
| | | RATED INPUT POWER | | W | 89 | | | 115 | | | 117 | | |
| | | RATED RUNNING CURRENT | | A | 0.38 | | | 0.49 | | | 0.50 | | |
| | COIL | MATERIAL | | | S.B.C. | | | | | | | S.I.G.C | |
| | | DIAMETER | | mm/in | 9.52 / 3/8 | | | | | | | | |
| | | THICKNESS | | mm/in | 0.35 / 0.014 | | | | | | | | |
| | | MATERIAL | | | ALUMINIUM | | | | | | | | |
| | FIN | THICKNESS | | mm/in | 0.11 / 0.0043 | | | | | | | | |
| | | ROW | | | 3 | | | 3 | | | 3 | | |
| | | FIN PER INCH | | | 12 | | | 12 | | | 12 | | |
| | | FACE AREA | | m ² /ft ² | 0.19 / 2.06 | | | 0.19 / 2.06 | | | 0.24 / 2.58 | | |
| | DIMENSION | HEIGHT | | mm/in | 214 / 8.4 | | | | | | | 249 / 9.8 | |
| | | WIDTH | | mm/in | 1214 / 47.8 | | | | | | | 1214 / 47.8 | |
| | | DEPTH | | mm/in | 670 / 26.3 | | | | | | | 670 / 26.3 | |
| | WEIGHT | | kg | 43 | | | 43 | | | 45 | | | |
| | SOUND PRESSURE LEVEL (H / M / L) | | | dBA | 50 / 47 / 40 | | | 54 / 53 / 50 | | | 51 / 50 / 48 | | |
| | CONTROL | ROOM TEMPERATURE | | | MICROCOMPUTER CONTROLLED THERMOSTAT | | | | | | | | |
| | | AIR DISCHARGE OPERATION | | | AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM) LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL | | | | | | | | |
| | CONDENSATE DRAIN SIZE | | | mm/in | 19.05 / 3/4 | | | | | | | | |
| | AIR FILTER | | | WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | | | | | | | | |
| | PACKING DIMENSION | HEIGHT | | mm/in | 301 / 11.9 | | | | | 345 / 13.6 | | | |
| | | WIDTH | | mm/in | 1311 / 51.6 | | | | | 1361 / 53.5 | | | |
| | | DEPTH | | mm/in | 760 / 29.9 | | | | | 760 / 29.9 | | | |
| | OUTDOOR UNIT | POWER SOURCE | | | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | | | | |
| COMPRESSOR TYPE | | | | ROTARY | | | ROTARY | | | ROTARY | | | |
| CAPACITOR | | | µF | 45 | | | 45 | | | 50 | | | |
| LOCK ROTOR AMPERE | | | A | 55 | | | 62 | | | 66 | | | |
| RATED RUNNING CURRENT | | | A | 9.1 | | | 11.0 | | | 12.6 | | | |
| RATED INPUT POWER | | | W | 1925 | | | 2230 | | | 2545 | | | |
| PROTECTION DEVICE | | | INTERNAL THERMAL OVERLOAD | | | | | | | | | | |
| POWER SOURCE | | | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | | | | | | |
| FAN | | FAN TYPE / DRIVE | | | CENTRIFUGAL / DIRECT | | | | | | | | |
| | | BLADE MATERIAL | | | ZINC COATED STEEL | | | | | | | | |
| | | DIAMETER | | | mm/in | 254 x 203 / 10 x 8 | | | | | | | |
| | | AIR FLOW | | | cfm / L/s | 1450 / 684 | | | 1500 / 708 | | | | |
| STATIC PRESSURE | | | mm Aq | 8 | | | 5 | | | 5 | | | |
| RATED RUNNING CURRENT | | | A | 1.83 | | | 2.00 | | | 2.00 | | | |
| MOTOR FULL LOAD OUTPUT | | | W | 373 | | | 373 | | | 373 | | | |
| RATED INPUT POWER | | | W | 414 | | | 453 | | | 453 | | | |
| COIL | | MATERIAL | | | S.I.G.C | | | | | | | | |
| | | DIAMETER | | mm/in | 9.52 / 3/8 | | | | | | | | |
| | | THICKNESS | | mm/in | 0.36 / 0.014 | | | | | | | | |
| | | MATERIAL | | | ALUMINIUM / SLIT | | | | | | | | |
| FIN | | THICKNESS | | mm/in | 0.127 / 0.005 | | | | | | | | |
| | | ROW | | | 2 | | | 3 | | | 3 | | |
| | | FIN PER INCH | | | 16 | | | 16 | | | 16 | | |
| | | FACE AREA | | m ² /ft ² | 0.37 / 3.98 | | | | | | | | |
| DIMENSION | | HEIGHT | | mm/in | 436 / 17.2 | | | | | | | | |
| | | WIDTH | | mm/in | 1240 / 48.8 | | | | | | | | |
| | | DEPTH | | mm/in | 586 / 23.1 | | | | | | | | |
| WEIGHT | | kg | 77 | | | 82 | | | 84 | | | | |
| SOUND PRESSURE LEVEL | | | dBA | 46 | | | 47 | | | 48 | | | |
| CASING | MATERIAL | | GALVANISED MILD STEEL | | | | | | | | | | |
| | THICKNESS | | mm/in | 1.0 / 0.039 | | | | | | | | | |
| | FINISHING | | POLYESTER POWDER | | | | | | | | | | |
| PIPE | TYPE | | FLARE VALVE | | | | | | | | | | |
| | SIZE | | LIQUID | mm/in | 6.35 / 1/4 | | | 9.52 / 3/8 | | | 9.52 / 3/8 | | |
| PACKING DIMENSION | GAS | | mm/in | 15.88 / 5/8 | | | 15.88 / 5/8 | | | 15.88 / 5/8 | | | |
| | HEIGHT | | mm/in | 618 / 24.3 | | | | | | | | | |
| | WIDTH | | mm/in | 1347 / 53.0 | | | | | | | | | |
| DEPTH | | mm/in | 703 / 27.7 | | | | | | | | | | |

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- 3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
 - a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
- 4) ALLOWABLE OPERATING RANGE
 - a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation
 S.B.C. - SEAMLESS BARE COPPER
 S.I.G.C - SEAMLESS INNER GROOVE COPPER

CEILING CASSETTE – MCK A SERIES (COOLING ONLY)

| MODEL | INDOOR UNIT | | MCK020A | MCK025A | MCK030A |
|------------------------------------|------------------------|---------------------------------|---|---------------|-----------------------|
| | OUTDOOR UNIT | | MHDC020A | MHDC025A | MHDC030A |
| NOMINAL COOLING | kcal/h | | 5040 | 6048 | 6804 |
| | W | | 5862 | 7034 | 7913 |
| CAPACITY | Btu/h | | 20000 | 24000 | 27000 |
| EFFECTIVE TOTAL POWER | W | | 2283 | 2709 | 3040 |
| NOMINAL TOTAL POWER | W | | 2466 | 2827 | 3158 |
| NOMINAL TOTAL CURRENT | A | | 11.5 | 13.6 | 15.3 |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| REFRIGERANT / CONTROL | | | R22 / OUTDOOR CAPILLARY TUBE | | R22 / INDOOR CAP TUBE |
| FAN | AIR FLOW | cfm / L/s | 770 / 363 | 810 / 382 | 920 / 434 |
| | FAN MOTOR | | 6 POLES x 35W | 6 POLES x 50W | 6 POLES x 65W |
| | RATED INPUT POWER | W | 127 | 144 | 160 |
| | RATED RUNNING CURRENT | A | 0.53 | 0.62 | 0.68 |
| COIL | TUBE | MATERIAL | S.B.C. | | |
| | | DIAMETER | 9.52 / 3/8 | | |
| | | THICKNESS | 0.35 / 0.014 | | |
| | FIN | MATERIAL | ALUMINIUM | | |
| | | THICKNESS | 0.11 / 0.0043 | | |
| | | ROW | 2 | 2 | 2 |
| | | FIN PER INCH | 12 | 16 | 16 |
| | FACE AREA | m ² /ft ² | 0.469 / 5.022 | | |
| DIMENSION | HEIGHT | mm/in | 335 (363) / 13.2 (14.3) | | |
| () - WITH PANEL | WIDTH | mm/in | 820 (930) / 32.2 (36.6) | | |
| | DEPTH | mm/in | 820 (930) / 32.2 (36.6) | | |
| WEIGHT (UNIT + PANEL) | kg | | 31 + 4 | 32 + 4 | 35 + 4 |
| SOUND PRESSURE LEVEL (H / M / L) | dBA | | 42 / 39 / 37 | 45 / 42 / 40 | 49 / 45 / 43 |
| CONTROL | ROOM TEMPERATURE | | MICROCOMPUTER CONTROLLED THERMOSTAT | | |
| | AIR DISCHARGE | | 4 - WAY AUTOMATIC LOUVER (UP & DOWN) | | |
| | OPERATION | | LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL | | |
| CONDENSATE DRAIN SIZE | mm/in | | 19.05 / 3/4 | | |
| AIR FILTER | | | WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | |
| PACKING | HEIGHT | mm/in | 380 (130) / 15.0 (5.1) | | |
| DIMENSION | WIDTH | mm/in | 920 (1020) / 36.2 (40.2) | | |
| () - PANEL | DEPTH | mm/in | 920 (1000) / 36.2 (39.4) | | |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| COMPRESSOR | COMPRESSOR TYPE | | ROTARY | ROTARY | ROTARY |
| | CAPACITOR | µF | 45 | 45 | 50 |
| | LOCK ROTOR AMPERE | A | 55 | 62 | 66 |
| | RATED RUNNING CURRENT | A | 9.1 | 11.0 | 12.6 |
| | RATED INPUT POWER | W | 1925 | 2230 | 2545 |
| | PROTECTION DEVICE | | INTERNAL THERMAL OVERLOAD | | |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| FAN | FAN TYPE / DRIVE | | CENTRIFUGAL / DIRECT | | |
| | BLADE MATERIAL | | ZINC COATED STEEL | | |
| | DIAMETER | mm/in | 254 x 203 / 10 x 8 | | |
| | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 | |
| | STATIC PRESSURE | mm Aq | 8 | 5 | 5 |
| | RATED RUNNING CURRENT | A | 1.83 | 2.00 | 2.00 |
| | MOTOR FULL LOAD OUTPUT | W | 373 | 373 | 373 |
| | RATED INPUT POWER | W | 414 | 453 | 453 |
| COIL | TUBE | MATERIAL | S.I.G.C | | |
| | | DIAMETER | 9.52 / 3/8 | | |
| | | THICKNESS | 0.36 / 0.014 | | |
| | FIN | MATERIAL | ALUMINIUM / SLIT | | |
| | | THICKNESS | 0.127 / 0.005 | | |
| | | ROW | 2 | 3 | 3 |
| | | FIN PER INCH | 16 | 16 | 16 |
| | FACE AREA | m ² /ft ² | 0.37 / 3.98 | | |
| DIMENSION | HEIGHT | mm/in | 436 / 17.2 | | |
| | WIDTH | mm/in | 1240 / 48.8 | | |
| | DEPTH | mm/in | 586 / 23.1 | | |
| WEIGHT | kg | | 77 | 82 | 84 |
| SOUND PRESSURE LEVEL | dBA | | 46 | 47 | 48 |
| CASING | MATERIAL | | GALVANISED MILD STEEL | | |
| | THICKNESS | mm/in | 1.0 / 0.039 | | |
| | FINISHING | | POLYESTER POWDER | | |
| PIPE | TYPE | | FLARE VALVE | | |
| | SIZE | LIQUID | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| | | GAS | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| PACKING | HEIGHT | mm/in | 618 / 24.3 | | |
| DIMENSION | WIDTH | mm/in | 1347 / 53.0 | | |
| | DEPTH | mm/in | 703 / 27.7 | | |

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

4) ALLOWABLE OPERATING RANGE

a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

S.B.C - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

CEILING CASSETTE – MCK B SERIES (COOLING ONLY)

| MODEL | | INDOOR UNIT | | MCK020B | | MCK025B | | MCK030B | | | |
|-------------------------|------------------------------------|-------------------------|---|---------------------------------|--|-------------|---------------|-----------------------|--------------|-------------|--|
| | | OUTDOOR UNIT | | MHDC020A | | MHDC025A | | MHDC030A | | | |
| NOMINAL | | | kcal/h | 4914 | | 5922 | | 6804 | | | |
| COOLING | | | W | 5715 | | 6887 | | 7913 | | | |
| CAPACITY | | | Btu/h | 19500 | | 23500 | | 27000 | | | |
| EFFECTIVE TOTAL POWER | | | W | 2225 | | 2640 | | 2983 | | | |
| EFFECTIVE TOTAL CURRENT | | | A | 10.5 | | 12.8 | | 14.5 | | | |
| NOMINAL TOTAL POWER | | | W | 2408 | | 2758 | | 3101 | | | |
| NOMINAL TOTAL CURRENT | | | A | 11.3 | | 13.3 | | 15.0 | | | |
| INDOOR UNIT | POWER SOURCE | | V/Ph/Hz | | 220 - 240 / 1 / 50 | | | | | | |
| | REFRIGERANT / CONTROL | | | R22 / OUTDOOR CAPILLARY TUBE | | | | R22 / INDOOR CAP TUBE | | | |
| | FAN | AIR FLOW | | cfm / L/s | | 430 / 203 | | 500 / 236 | | 610 / 288 | |
| | | FAN MOTOR | | | 6 POLES | | 6 POLES | | 6 POLES | | |
| | | RATED INPUT POWER | | W | | 69 | | 75 | | 103 | |
| | | RATED RUNNING CURRENT | | A | | 0.29 | | 0.32 | | 0.43 | |
| | COIL | TUBE | MATERIAL | | S.I.G.C | | | | | | |
| | | | DIAMETER | | mm/in | | 9.52 / 3/8 | | | | |
| | | | THICKNESS | | mm/in | | 0.35 / 0.014 | | | | |
| | | FIN | MATERIAL | | ALUMINIUM (SLIT FIN) | | | | | | |
| | | | THICKNESS | | mm/in | | 0.11 / 0.0043 | | | | |
| | | | ROW | | | 2 | | | | | |
| | | | FIN PER INCH | | | 14 | | | | | |
| | | FACE AREA | | m ² /ft ² | | 0.38 / 4.1 | | | | | |
| | DIMENSION () - WITH PANEL | HEIGHT | mm/in | | 293 (345) / 11.5 (13.6) | | | | | | |
| | | WIDTH | mm/in | | 650 (727) / 25.6 (28.6) | | | | | | |
| | | DEPTH | mm/in | | 650 (727) / 25.6 (28.6) | | | | | | |
| | WEIGHT (UNIT + PANEL) | | kg | | 30 + 3 | | 31 + 3 | | 32 + 3 | | |
| | SOUND PRESSURE LEVEL (H / M / L) | | dBA | | 42 / 40 / 37 | | 45 / 42 / 39 | | 48 / 45 / 42 | | |
| | CONTROL | ROOM TEMPERATURE | | | MICROCOMPUTER CONTROLLED THERMOSTAT | | | | | | |
| | | AIR DISCHARGE OPERATION | | | 4 WAY AUTOMATIC LOUVER (UP & DOWN) | | | | | | |
| | | | | | WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL | | | | | | |
| | CONDENSATE DRAIN SIZE | | mm/in | | 19.05 / 3/4 | | | | | | |
| | AIR FILTER | | CORRUGATED WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | | | | | | | |
| | PACKING | HEIGHT | mm/in | | 360 (110) / 14.2 (4.3) | | | | | | |
| | DIMENSION () - PANEL | WIDTH | mm/in | | 725 (840) / 28.5 (33.1) | | | | | | |
| | | DEPTH | mm/in | | 725 (840) / 28.5 (33.1) | | | | | | |
| OUTDOOR UNIT | POWER SOURCE | | V/Ph/Hz | | 220 - 240 / 1 / 50 | | | | | | |
| | COMPRESSOR TYPE | | | | ROTARY | | ROTARY | | ROTARY | | |
| | CAPACITOR | | µF | | 45 | | 45 | | 50 | | |
| | LOCK ROTOR AMPERE | | A | | 55 | | 62 | | 66 | | |
| | RATED RUNNING CURRENT | | A | | 9.1 | | 11.0 | | 12.6 | | |
| | RATED INPUT POWER | | W | | 1925 | | 2230 | | 2545 | | |
| | PROTECTION DEVICE | | | INTERNAL THERMAL OVERLOAD | | | | | | | |
| | POWER SOURCE | | V/Ph/Hz | | 220 - 240 / 1 / 50 | | | | | | |
| | FAN TYPE / DRIVE | | CENTRIFUGAL / DIRECT | | | | | | | | |
| | BLADE MATERIAL | | ZINC COATED STEEL | | | | | | | | |
| | DIAMETER | | mm/in | | 254 x 203 / 10 x 8 | | | | | | |
| | AIR FLOW | | cfm / L/s | | 1450 / 684 | | 1500 / 708 | | | | |
| | STATIC PRESSURE | | mm Aq | | 8 | | 5 | | 5 | | |
| | RATED RUNNING CURRENT | | A | | 1.83 | | 2.00 | | 2.00 | | |
| | MOTOR FULL LOAD OUTPUT | | W | | 373 | | 373 | | 373 | | |
| | RATED INPUT POWER | | W | | 414 | | 453 | | 453 | | |
| | COIL | TUBE | MATERIAL | | S.I.G.C | | | | | | |
| | | | DIAMETER | | mm/in | | 9.52 / 3/8 | | | | |
| | | | THICKNESS | | mm/in | | 0.36 / 0.014 | | | | |
| | | FIN | MATERIAL | | ALUMINIUM / SLIT | | | | | | |
| | | | THICKNESS | | mm/in | | 0.127 / 0.005 | | | | |
| | | | ROW | | | 2 | | 3 | | 3 | |
| | | | FIN PER INCH | | | 16 | | 16 | | 16 | |
| | | FACE AREA | | m ² /ft ² | | 0.37 / 3.98 | | | | | |
| | DIMENSION | HEIGHT | mm/in | | 436 / 17.3 | | | | | | |
| | | WIDTH | mm/in | | 1240 / 48.8 | | | | | | |
| | | DEPTH | mm/in | | 586 / 23.1 | | | | | | |
| | WEIGHT | | kg | | 77 | | 82 | | 84 | | |
| | SOUND PRESSURE LEVEL | | dBA | | 46 | | 47 | | 48 | | |
| | CASING | MATERIAL | | GALVANISED MILD STEEL | | | | | | | |
| | | THICKNESS | | mm/in | | 1.0 / 0.039 | | | | | |
| | | FINISHING | | POLYESTER POWDER | | | | | | | |
| | PIPE | TYPE | | FLARE VALVE | | | | | | | |
| | | SIZE | LIQUID | mm/in | | 6.35 / 1/4 | | 9.52 / 3/8 | | 9.52 / 3/8 | |
| | | | GAS | mm/in | | 15.88 / 5/8 | | 15.88 / 5/8 | | 15.88 / 5/8 | |
| | PACKING DIMENSION | HEIGHT | mm/in | | 618 / 24.3 | | | | | | |
| | | WIDTH | mm/in | | 1347 / 53.0 | | | | | | |
| | | DEPTH | mm/in | | 703 / 27.7 | | | | | | |

- 1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
- 2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
- 3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
 - a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
- 4) ALLOWABLE OPERATING RANGE
 - a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation
S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

CEILING CONCEALED – MCC C SERIES (COOLING ONLY)

| MODEL | | INDOOR UNIT | | MCC020C | MCC025C | MCC030C |
|--|------------------------|---------------------------------|--|---|----------------|-----------------------|
| | | OUTDOOR UNIT | | MHDC020A | MHDC025A | MHDC030A |
| NOMINAL COOLING CAPACITY | | kcal/h | | 4964 | 5947 | 6804 |
| | | W | | 5774 | 6917 | 7913 |
| | | Btu/h | | 19700 | 23600 | 27000 |
| EFFECTIVE TOTAL POWER | | W | | 2251 | 2667 | 3012 |
| NOMINAL TOTAL POWER | | W | | 2480 | 2848 | 3368 |
| NOMINAL TOTAL CURRENT | | A | | 11.6 | 13.7 | 16.2 |
| POWER SOURCE | | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| REFRIGERANT / CONTROL | | | | R22 / OUTDOOR CAPILLARY TUBE | | R22 / INDOOR CAP TUBE |
| FAN | AIR FLOW | cfm / L/s | | 700 / 330 | 730 / 345 | 900 / 425 |
| | STATIC PRESSURE | mm Aq | | 5 | 5 | 21 |
| | FAN MOTOR | | | 4 POLES x 80W | 4 POLES x 100W | 4 POLES x 320W |
| | RATED INPUT POWER | W | | 141 | 165 | 370 |
| COIL | RATED RUNNING CURRENT | A | | 0.61 | 0.71 | 1.60 |
| | TUBE MATERIAL | | | S.B.C. | S.I.G.C | S.B.C. |
| | DIAMETER | mm/in | | 9.52 / 3/8 | | |
| | THICKNESS | mm/in | | 0.35 / 0.014 | | |
| FIN | TUBE MATERIAL | | | ALUMINIUM | | |
| | THICKNESS | mm/in | | 0.11 / 0.0043 | | |
| | ROW | | | 3 | 3 | 3 |
| | FIN PER INCH | | | 12 | 12 | 12 |
| FACE AREA | | m ² /ft ² | | 0.176 / 1.892 | 0.203 / 2.187 | 0.27 / 2.98 |
| DIMENSION | HEIGHT | mm/in | | 261 / 10.3 | 261 / 10.3 | 378 / 14.9 |
| | WIDTH | mm/in | | 1065 / 41.9 | 1200 / 47.2 | 929 / 36.6 |
| | DEPTH | mm/in | | 411 / 16.2 | 411 / 16.2 | 541 / 21.3 |
| WEIGHT | | kg | | 22 | 25 | 39 |
| SOUND PRESSURE LEVEL (SH* / H / M / L) | | dBA | | 38 / 36 / 34 | 40 / 39 / 36 | 49* / 46 / 42 / 38 |
| CONTROL ROOM TEMPERATURE OPERATION | | | | MICROCOMPUTER CONTROLLED THERMOSTAT | | |
| CONDENSATE DRAIN SIZE | | mm/in | | SLM WIRED HANDSET (OPTIONAL AC5300 REMOTE CONTROLLER) | | |
| AIR FILTER | | | | 19.05 / 3/4 | | |
| PACKING | | | | WASHABLE SARAN NET | | |
| DIMENSION | HEIGHT | mm/in | | 410 / 16.1 | 410 / 16.1 | 399 / 15.7 |
| | WIDTH | mm/in | | 1251 / 49.3 | 1386 / 54.6 | 1110 / 43.7 |
| | DEPTH | mm/in | | 535 / 21.1 | 535 / 21.1 | 615 / 24.2 |
| POWER SOURCE | | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| COMPRESSOR | COMPRESSOR TYPE | | | ROTARY HERMETIC | | |
| | CAPACITOR | µF | | 45 | 45 | 50 |
| | LOCK ROTOR AMP. | A | | 55 | 62 | 66 |
| | RATED RUNNING CURRENT | A | | 9.1 | 11.0 | 12.6 |
| FAN | RATED INPUT POWER | W | | 1925 | 2230 | 2545 |
| | PROTECTION DEVICE | | | OVERLOAD PROTECTION | | |
| | FAN TYPE / DRIVE | | | BLOWER WHEEL / DIRECT | | |
| | BLADE MATERIAL | | | ZINC COATED STEEL | | |
| COIL | DIAMETER | mm/in | | 254 x 203 / 10 x 8 | | |
| | AIR FLOW | cfm / L/s | | 1450 / 684 | 1500 / 708 | |
| | STATIC PRESSURE | mm Aq | | 8 | 5 | 5 |
| | RATED RUNNING CURRENT | A | | 1.02 | 1.49 | 1.49 |
| PIPE | MOTOR FULL LOAD OUTPUT | W | | 373 | 373 | 373 |
| | RATED INPUT POWER | W | | 231 | 335 | 335 |
| | TUBE MATERIAL | | | S.I.G.C | | |
| | DIAMETER | mm/in | | 9.52 / 3/8 | | |
| FIN | THICKNESS | mm/in | | 0.35 / 0.014 | | |
| | TUBE MATERIAL | | | ALUMINIUM (SLIT FIN TYPE) | | |
| | THICKNESS | mm/in | | 0.127 / 0.005 | | |
| | ROW | | | 2 | 3 | 3 |
| FACE AREA | | m ² /ft ² | | 16 | 16 | 16 |
| DIMENSION | HEIGHT | mm/in | | 0.37 / 3.98 | 436 / 17.2 | |
| | WIDTH | mm/in | | 1240 / 48.8 | 586 / 23.1 | |
| | DEPTH | mm/in | | | | |
| WEIGHT | | kg | | 77 | 82 | 84 |
| SOUND PRESSURE LEVEL | | dBA | | 46 | 47 | 48 |
| CASING MATERIAL | | | | GALVANISED MILD STEEL | | |
| THICKNESS | | mm/in | | 0.8 / 0.031 | | |
| | FINISHING | | | POLYESTER POWDER | | |
| CONDENSATE DRAIN SIZE | | mm/in | | 25.4 / 1 | | |
| PIPE | TYPE | | | FLARE VALVE | | |
| | SIZE | | | | | |
| | LIQUID | mm/in | | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| | GAS | mm/in | | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| PACKING | HEIGHT | mm/in | | 618 / 24.3 | | |
| | WIDTH | mm/in | | 1347 / 53.0 | | |
| | DEPTH | mm/in | | 703 / 27.7 | | |

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

4) ALLOWABLE OPERATING RANGE

a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

| | | |
|---------|---|------------------------------|
| S.B.C. | - | SEAMLESS BARE COPPER |
| S.I.G.C | - | SEAMLESS INNER GROOVE COPPER |

WALL MOOUNTED – MWM F SERIES (HEATPUMP)

| MODEL | | INDOOR UNIT | MWM020FR | MWM025FR | MWM0301R |
|----------------------------------|-------------------------------|---------------------------------|--|---------------|---------------|
| | | OUTDOOR UNIT | MHDC020AR | MHDC025AR | MHDC030AR |
| NOMINAL COOLING CAPACITY | | kcal/h | 4788 | 6048 | 6552 |
| | | W | 5569 | 7034 | 7620 |
| | | Btu/h | 19000 | 24000 | 26000 |
| | | kcal/h | 5040 | 6300 | 7056 |
| NOMINAL HEATING CAPACITY | | W | 5862 | 7327 | 8206 |
| | | Btu/h | 20000 | 25000 | 28000 |
| | | W | 2209 | 2622 | 2951 |
| | | W | 2066 | 2562 | 2533 |
| EFFECTIVE TOTAL POWER (COOLING) | | W | 2392 | 2740 | 3069 |
| EFFECTIVE TOTAL POWER (HEATING) | | W | 2249 | 2680 | 2651 |
| NOMINAL TOTAL POWER (COOLING) | | A | 11.2 | 13.3 | 14.9 |
| NOMINAL TOTAL POWER (HEATING) | | A | 10.8 | 13.1 | 13.6 |
| POWER SOURCE | | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| REFRIGERANT / CONTROL | | | R22 / CAPILLARY TUBE | | |
| FAN | FAN TYPE | | ANTI FUNGUS CROSS FLOW FAN | | |
| | AIR FLOW | cfm / L/s | 480 / 227 | 580 / 274 | 740 / 349 |
| | FAN MOTOR | | 4 POLES X 20W | 4 POLES X 25W | 4 POLES X 45W |
| | RATED INPUT POWER | W | 53 | 57 | 71 |
| COIL | RATED RUNNING CURRENT | A | 0.23 | 0.24 | 0.30 |
| | FAN MOTOR PROTECTION | | THERMAL OVERLOAD RELAY | | |
| | MATERIAL | | SEAMLESS COPPER TUBE | | |
| | TUBE PATTERN | | INNER GROOVED | | |
| IN | DIAMETER | mm/in | 7.0 / 0.276 | | 9.52 / 0.375 |
| | THICKNESS | mm/in | 0.32 / 0.013 | | 0.35 / 0.013 |
| | MATERIAL | | ALUMINIUM (HYDROPHILIC SLIT FIN TYPE) | | |
| | THICKNESS | mm/in | 0.11 / 0.0043 | | 0.11 / 0.0043 |
| OUTDOOR UNIT | ROW | | 2 | | 2 |
| | FIN PER INCH | | 18 | | 16 |
| | FACE AREA | m ² /ft ² | 0.254 / 2.733 | | 0.291 / 3.130 |
| | DIMENSION | | | | |
| WEIGHT | HEIGHT | mm/in | 306 / 12.0 | | 360 / 14.2 |
| | WIDTH | mm/in | 1062 / 41.8 | | 1200 / 47.2 |
| | DEPTH | mm/in | 202 / 8.0 | | 200 / 7.9 |
| | kg | | 16 | | 17 |
| SOUND PRESSURE LEVEL - H / M / L | | dBA | 45 / 42 / 39 | 47 / 44 / 42 | 52 / 49 / 43 |
| CONTROL | ROOM TEMPERATURE | | THERMOSTAT ELECTRONIC CONTROL | | |
| | AIR DISCHARGE OPERATION | | LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT) | | |
| | | | LCD REMOTE CONTROL | | |
| | CONDENSATE DRAIN SIZE | mm/in | 20 / 0.79 | | |
| AIR FILTER | | | ANTI FUNGUS POLYPROPYLENE FILTER | | |
| OPTIONAL AIR FILTER | | | DUAL ACTION ELECTROSTATIC AIR PURIFYING AND DEODORIZING FILTER | | |
| PACKING DIMENSION | HEIGHT | mm/in | 382 / 15.0 | | 420 / 16.5 |
| | WIDTH | mm/in | 1130 / 44.5 | | 1267 / 49.9 |
| | DEPTH | mm/in | 268 / 10.6 | | 260 / 10.2 |
| | | | | | |
| COMPRESSOR | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| | COMPRESSOR TYPE | | ROTARY | ROTARY | ROTARY |
| | CAPACITOR | μF | 45 | 45 | 50 |
| | LOCK ROTOR AMPERE | A | 55 | 62 | 66 |
| FAN | RATED RUNNING CURR. (COOLING) | A | 9.1 | 11.0 | 12.6 |
| | RATED RUNNING CURR. (HEATING) | A | 8.7 | 10.9 | 11.3 |
| | RATED INPUT POWER (COOLING) | W | 1925 | 2230 | 2545 |
| | RATED INPUT POWER (HEATING) | W | 1782 | 2170 | 2127 |
| COIL | PROTECTION DEVICE | | INTERNAL THERMAL OVERLOAD | | |
| | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| | FAN TYPE / DRIVE | | CENTRIFUGAL/DIRECT | | |
| | BLADE MATERIAL | | ZINC COATED STEEL | | |
| OUTDOOR UNIT | DIAMETER | mm/in | 254 x 203 / 10 x 8 | | |
| | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 | |
| | STATIC PRESSURE | mm Aq | 8 | 5 | 5 |
| | RATED RUNNING CURRENT | A | 1.83 | 2.00 | 2.00 |
| PIPE | MOTOR FULL LOAD OUTPUT | W | 373 | 373 | 373 |
| | RATED INPUT POWER | W | 414 | 453 | 453 |
| | MATERIAL | | S.I.G.C | | |
| | DIAMETER | mm/in | | 9.52 / 3/8 | |
| COIL | THICKNESS | mm/in | | 0.36 / 0.014 | |
| | MATERIAL | | ALUMINIUM / SLIT | | |
| | THICKNESS | mm/in | | 0.127 / 0.005 | |
| | ROW | | 2 | 3 | 3 |
| DIMENSION | FIN PER INCH | | 16 | 16 | 16 |
| | FACE AREA | m ² /ft ² | | 0.37 / 3.98 | |
| | HEIGHT | mm/in | | 436 / 17.2 | |
| | WIDTH | mm/in | | 1240 / 48.8 | |
| WEIGHT | DEPTH | mm/in | | 586 / 23.1 | |
| | kg | | 77 | 82 | 84 |
| | SOUND PRESSURE LEVEL | dBA | 46 | 47 | 48 |
| | | | | | |
| CASING | MATERIAL | | GALVANISED MILD STEEL | | |
| | THICKNESS | mm/in | 1.0 / 0.039 | | |
| | FINISHING | | POLYESTER POWDER | | |
| | | | FLARE VALVE | | |
| PACKING DIMENSION | LIQUID | mm/in | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| | GAS | mm/in | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| | HEIGHT | mm/in | | 618 / 24.3 | |
| | WIDTH | mm/in | | 1347 / 53.0 | |
| PIPE | DEPTH | mm/in | | 703 / 27.7 | |
| | | | | | |
| | | | | | |
| | | | | | |

- 1) ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
b) HEATING - 21.0°C DB INDOOR AND -2°C DB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

| | | |
|---------------------|---|------------------------------|
| Abbreviation | | |
| S.B.C. | - | SEAMLESS BARE COPPER |
| S.I.G.C | - | SEAMLESS INNER GROOVE COPPER |

CEILING CONVERTIBLE – MCM D SERIES (HEATPUMP)

| MODEL | INDOOR UNIT | | MCM020DR | MCM025DR | MCM030DR |
|----------------------------------|---------------------------------|--|---|---------------|---------------|
| | OUTDOOR UNIT | | MHDC020AR | MHDC025AR | MHDC030AR |
| NOMINAL COOLING CAPACITY | kcal/h | | 4965 | 5948 | 6804 |
| | W | | 5774 | 6917 | 7913 |
| NOMINAL HEATING CAPACITY | Btu/h | | 19700 | 23600 | 27000 |
| | kcal/h | | 5916 | 6426 | 7182 |
| | W | | 6038 | 7474 | 8353 |
| | Btu/h | | 20600 | 25500 | 28500 |
| EFFECTIVE TOTAL POWER (COOLING) | W | | 2245 | 2680 | 2997 |
| EFFECTIVE TOTAL POWER (HEATING) | W | | 2102 | 2620 | 2579 |
| NOMINAL TOTAL POWER (COOLING) | W | | 2428 | 2798 | 3115 |
| NOMINAL TOTAL POWER (HEATING) | W | | 2285 | 2738 | 2697 |
| NOMINAL TOTAL CURRENT (COOLING) | A | | 11.4 | 13.5 | 15.1 |
| NOMINAL TOTAL CURRENT (HEATING) | A | | 10.9 | 13.4 | 13.8 |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| REFRIGERANT / CONTROL | | | R22 / CAPILLARY TUBE IN OUTDOOR | | |
| AIR FLOW | cfm / L/s | | 590 / 278 | 660 / 312 | 730 / 345 |
| FAN MOTOR | | | 4 POLES x 45W | 4 POLES x 95W | 4 POLES x 95W |
| RATED INPUT POWER | W | | 89 | 115 | 117 |
| RATED RUNNING CURRENT | A | | 0.38 | 0.49 | 0.50 |
| MATERIAL | | | S.B.C. | | |
| DIAMETER | mm/in | | 9.52 / 3/8 | | |
| THICKNESS | mm/in | | 0.35 / 0.014 | | |
| MATERIAL | | | ALUMINIUM | | |
| THICKNESS | mm/in | | 0.11 / 0.0043 | | |
| ROW | | | 3 | 3 | 3 |
| FIN PER INCH | | | 12 | 12 | 12 |
| FACE AREA | m ² /ft ² | | 0.19 / 2.06 | 0.19 / 2.06 | 0.24 / 2.58 |
| HEIGHT | mm/in | | 214 / 8.4 | 249 / 9.8 | 1214 / 47.8 |
| WIDTH | mm/in | | 1214 / 47.8 | 1214 / 47.8 | 670 / 26.3 |
| DEPTH | mm/in | | 670 / 26.3 | 670 / 26.3 | 45 |
| WEIGHT | kg | | 43 | 43 | 45 |
| SOUND PRESSURE LEVEL (H / M / L) | dBA | | 50 / 47 / 40 | 54 / 53 / 50 | 51 / 50 / 48 |
| ROOM TEMPERATURE | | | MICROCOMPUTER CONTROLLED THERMOSTAT | | |
| AIR DISCHARGE | | | AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM) | | |
| OPERATION | | | LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL | | |
| CONDENSATE DRAIN SIZE | mm/in | | 19.05 / 3/4 | | |
| AIR FILTER | | | WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | |
| HEIGHT | mm/in | | 301 / 11.9 | | 345 / 13.6 |
| WIDTH | mm/in | | 1311 / 51.6 | | 1361 / 53.5 |
| DEPTH | mm/in | | 760 / 29.9 | | 760 / 29.9 |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| COMPRESSOR TYPE | | | ROTARY | ROTARY | ROTARY |
| CAPACITOR | µF | | 45 | 45 | 50 |
| LOCK ROTOR AMPERE | A | | 55 | 62 | 66 |
| RATED RUNNING CURR. (COOLING) | A | | 9.1 | 11.0 | 12.6 |
| RATED RUNNING CURR. (HEATING) | A | | 8.7 | 10.9 | 11.3 |
| RATED INPUT POWER (COOLING) | W | | 1925 | 2230 | 2545 |
| RATED INPUT POWER (HEATING) | W | | 1782 | 2170 | 2127 |
| PROTECTION DEVICE | | | INTERNAL THERMAL OVERLOAD | | |
| POWER SOURCE | V/Ph/Hz | | 220 - 240 / 1 / 50 | | |
| FAN TYPE / DRIVE | | | CENTRIFUGAL / DIRECT | | |
| BLADE MATERIAL | | | ZINC COATED STEEL | | |
| DIAMETER | mm/in | | 254 x 203 / 10 x 8 | | |
| AIR FLOW | cfm / L/s | | 1450 / 684 | 1500 / 708 | |
| STATIC PRESSURE | mm Aq | | 8 | 5 | 5 |
| RATED RUNNING CURRENT | A | | 1.83 | 2.00 | 2.00 |
| MOTOR FULL LOAD OUTPUT | W | | 373 | 373 | 373 |
| RATED INPUT POWER | W | | 414 | 453 | 453 |
| MATERIAL | | | S.I.G.C | | |
| DIAMETER | mm/in | | 9.52/3/8 | | |
| THICKNESS | mm/in | | 0.36 / 0.014 | | |
| MATERIAL | | | ALUMINIUM/SLIT | | |
| THICKNESS | mm/in | | 0.127 / 0.005 | | |
| ROW | | | 2 | 3 | 3 |
| FIN PER INCH | | | 16 | 16 | 16 |
| FACE AREA | m ² /ft ² | | 0.37 / 3.98 | | |
| HEIGHT | mm/in | | 436 / 17.2 | | |
| WIDTH | mm/in | | 1240 / 48.8 | | |
| DEPTH | mm/in | | 586 / 23.1 | | |
| WEIGHT | kg | | 77 | 82 | 84 |
| SOUND PRESSURE LEVEL | dBA | | 46 | 47 | 48 |
| MATERIAL | | | GALVANISED MILD STEEL | | |
| THICKNESS | mm/in | | 1.0 / 0.039 | | |
| FINISHING | | | POLYESTER POWDER | | |
| TYPE | | | FLARE VALVE | | |
| LIQUID | mm/in | | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| GAS | mm/in | | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| HEIGHT | mm/in | | 618 / 24.3 | | |
| WIDTH | mm/in | | 1347 / 53.0 | | |
| DEPTH | mm/in | | 703 / 27.7 | | |

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR

b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

4) ALLOWABLE OPERATING RANGE

a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

b) HEATING - 21.0°C DB INDOOR AND -2°C DB OUTDOOR TO

26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Abbreviation

| | | |
|---------|---|------------------------------|
| S.B.C. | - | SEAMLESS BARE COPPER |
| S.I.G.C | - | SEAMLESS INNER GROOVE COPPER |

CEILING CASSETTE – MCK A SERIES (HEATPUMP)

| MODEL | INDOOR UNIT | | MCK020AR | MCK025AR | MCK030AR |
|---------------------------------|----------------------------------|------------------|---|---------------|---------------|
| | OUTDOOR UNIT | | MHDC020AR | MHDC025AR | MHDC030AR |
| NOMINAL | | kcal/h | 5040 | 6048 | 6804 |
| COOLING | | W | 5862 | 7034 | 7913 |
| CAPACITY | | Btu/h | 20000 | 24000 | 27000 |
| NOMINAL | | kcal/h | 5292 | 6426 | 7182 |
| HEATING | | W | 6155 | 7474 | 8353 |
| CAPACITY | | Btu/h | 21000 | 25500 | 28500 |
| EFFECTIVE TOTAL POWER (COOLING) | | W | 2283 | 2709 | 3040 |
| EFFECTIVE TOTAL POWER (HEATING) | | W | 2140 | 2649 | 2622 |
| NOMINAL TOTAL POWER (COOLING) | | W | 2466 | 2827 | 3158 |
| NOMINAL TOTAL POWER (HEATING) | | W | 2323 | 2767 | 2740 |
| NOMINAL TOTAL CURRENT (COOLING) | | A | 11.5 | 13.6 | 15.3 |
| NOMINAL TOTAL CURRENT (HEATING) | | A | 11.1 | 13.5 | 14.0 |
| INDOOR UNIT | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| | REFRIGERANT / CONTROL | | R22 / CAPILLARY TUBE IN OUTDOOR | | |
| | AIR FLOW | cfm / L/s | 770 / 363 | 810 / 382 | 920 / 434 |
| | FAN MOTOR | | 6 POLES x 35W | 6 POLES x 50W | 6 POLES x 65W |
| | RATED INPUT POWER | W | 127 | 144 | 160 |
| | RATED RUNNING CURRENT | A | 0.53 | 0.62 | 0.68 |
| | COIL | TUBE | S.B.C. | | |
| | | DIAMETER | 9.52 / 3/8 | | |
| | | THICKNESS | 0.35 / 0.014 | | |
| | | MATERIAL | ALUMINIUM | | |
| | FIN | THICKNESS | 0.11 / 0.0043 | | |
| | | ROW | 2 | 2 | 2 |
| | | FIN PER INCH | 12 | 16 | 16 |
| | | FACE AREA | 0.469 / 5.022 | | |
| | DIMENSION | HEIGHT | 335 (363) / 13.2 (14.3) | | |
| | | WIDTH | 820 (930) / 32.2 (36.6) | | |
| | | DEPTH | 820 (930) / 32.2 (36.6) | | |
| | WEIGHT (UNIT + PANEL) | kg | 31 + 4 | 32 + 4 | 35 + 4 |
| | SOUND PRESSURE LEVEL (H / M / L) | dBA | 42 / 39 / 37 | 45 / 42 / 40 | 49 / 45 / 43 |
| | CONTROL | ROOM TEMPERATURE | MICROCOMPUTER CONTROLLED THERMOSTAT | | |
| | | AIR DISCHARGE | 4 - WAY AUTOMATIC LOUVER (UP & DOWN) | | |
| | | OPERATION | LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL | | |
| | CONDENSATE DRAIN SIZE | mm/in | 19.05 / 3/4 | | |
| | AIR FILTER | | WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | |
| | PACKING | HEIGHT | 380 (130) / 15.0 (5.1) | | |
| | DIMENSION | WIDTH | 920 (1020) / 36.2 (40.2) | | |
| | | DEPTH | 920 (1000) / 36.2 (39.4) | | |
| OUTDOOR UNIT | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| | COMPRESSOR TYPE | | ROTARY | ROTARY | ROTARY |
| | CAPACITOR | µF | 45 | 45 | 50 |
| | LOCK ROTOR AMPERE | A | 55 | 62 | 66 |
| | RATED RUNNING CURR. (COOLING) | A | 9.1 | 11.0 | 12.6 |
| | RATED RUNNING CURR. (HEATING) | A | 8.7 | 10.9 | 11.3 |
| | RATED INPUT POWER (COOLING) | W | 1925 | 2230 | 2545 |
| | RATED INPUT POWER (HEATING) | W | 1782 | 2170 | 2127 |
| | PROTECTION DEVICE | | INTERNAL THERMAL OVERLOAD | | |
| | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| | FAN TYPE / DRIVE | | CENTRIFUGAL / DIRECT | | |
| | BLADE MATERIAL | | ZINC COATED STEEL | | |
| | DIAMETER | mm/in | 254 x 203 / 10 x 8 | | |
| | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 | |
| | STATIC PRESSURE | mm Aq | 8 | 5 | 5 |
| | RATED RUNNING CURRENT | A | 1.83 | 2.00 | 2.00 |
| | MOTOR FULL LOAD OUTPUT | W | 373 | 373 | 373 |
| | RATED INPUT POWER | W | 414 | 453 | 453 |
| | COIL | TUBE | S.I.G.C | | |
| | | DIAMETER | 9.52 / 3/8 | | |
| | | THICKNESS | 0.36 / 0.014 | | |
| | | MATERIAL | ALUMINIUM / SLIT | | |
| | FIN | THICKNESS | 0.127 / 0.005 | | |
| | | ROW | 2 | 3 | 3 |
| | | FIN PER INCH | 16 | 16 | 16 |
| | | FACE AREA | 0.37 / 3.98 | | |
| | DIMENSION | HEIGHT | 436 / 17.2 | | |
| | | WIDTH | 1240 / 48.8 | | |
| | | DEPTH | 586 / 23.1 | | |
| | WEIGHT | kg | 77 | 82 | 84 |
| | SOUND PRESSURE LEVEL | dBA | 46 | 47 | 48 |
| | CASING | MATERIAL | GALVANISED MILD STEEL | | |
| | | THICKNESS | 1.0 / 0.039 | | |
| | | FINISHING | POLYESTER POWDER | | |
| | PIPE | TYPE | FLARE VALVE | | |
| | | SIZE | | | |
| | | LIQUID | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| | PACKING | GAS | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| | | HEIGHT | 618 / 24.3 | | |
| | | WIDTH | 1347 / 53.0 | | |
| | DIMENSION | DEPTH | 703 / 27.7 | | |

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
b) HEATING - 21.0°C DB INDOOR AND -2°C DB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Abbreviation
S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

CEILING CASSETTE – MCK B SERIES (HEATPUMP)

| MODEL | | | INDOOR UNIT | | MCK020BR | MCK025BR | MCK030BR | |
|---------------------------------|------------------------------------|-------------------------------|---|---------------------------------|-----------------------|--------------|--------------|--|
| | | | OUTDOOR UNIT | | MHDC020AR | MHDC025AR | MHDC030AR | |
| NOMINAL COOLING CAPACITY | | | kcal/h | 4914 | 5922 | 6804 | | |
| COOLING | | | W | 5715 | 6887 | 7913 | | |
| CAPACITY | | | Btu/h | 19500 | 23500 | 27000 | | |
| NOMINAL HEATING CAPACITY | | | kcal/h | 5166 | 6426 | 7056 | | |
| | | | W | 6008 | 7474 | 8206 | | |
| | | | Btu/h | 20500 | 25500 | 28000 | | |
| EFFECTIVE TOTAL POWER (COOLING) | | | W | 2225 | 2640 | 2983 | | |
| EFFECTIVE TOTAL POWER (HEATING) | | | W | 2082 | 2580 | 2565 | | |
| NOMINAL TOTAL POWER (COOLING) | | | W | 2408 | 2758 | 3101 | | |
| NOMINAL TOTAL POWER (HEATING) | | | W | 2265 | 2698 | 2683 | | |
| NOMINAL TOTAL CURRENT (COOLING) | | | A | 11.3 | 13.3 | 15.0 | | |
| NOMINAL TOTAL CURRENT (HEATING) | | | A | 10.8 | 13.2 | 13.8 | | |
| POWER SOURCE | | | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | |
| REFRIGERANT / CONTROL | | | R22 / CAPILLARY TUBE IN OUTDOOR | | | | | |
| INDOOR UNIT | FAN | AIR FLOW | cfm / L/s | 430 / 203 | 500 / 236 | 610 / 288 | | |
| | | FAN MOTOR | | 6 POLES | 6 POLES | 6 POLES | | |
| | | RATED INPUT POWER | W | 69 | 75 | 103 | | |
| | | RATED RUNNING CURRENT | A | 0.29 | 0.32 | 0.43 | | |
| | COIL | TUBE | MATERIAL | | S.I.G.C | | | |
| | | | DIAMETER | mm/in | 9.52 / 3/8 | | | |
| | | | THICKNESS | mm/in | 0.35 / 0.014 | | | |
| | | | MATERIAL | | ALUMINIUM (SLIT FIN) | | | |
| | | FIN | THICKNESS | mm/in | 0.11 / 0.0043 | | | |
| | | | ROW | | 2 | | | |
| | | | FIN PER INCH | | 14 | | | |
| | | | FACE AREA | m ² /ft ² | 0.38 / 4.1 | | | |
| | DIMENSION () - WITH PANEL | HEIGHT | mm/in | 293 (345) / 11.5 (13.6) | | | | |
| | | WIDTH | mm/in | 650 (727) / 25.6 (28.6) | | | | |
| | | DEPTH | mm/in | 650 (727) / 25.6 (28.6) | | | | |
| | | WEIGHT (UNIT + PANEL) | kg | 30 + 3 | 31 + 3 | 32 + 3 | | |
| | SOUND PRESSURE LEVEL (H / M / L) | | | dBA | 42 / 40 / 37 | 45 / 42 / 39 | 48 / 45 / 42 | |
| | CONTROL | ROOM TEMPERATURE | MICROCOMPUTER CONTROLLED THERMOSTAT | | | | | |
| | | AIR DISCHARGE | 4 WAY AUTOMATIC LOUVER (UP & DOWN) | | | | | |
| | | OPERATION | WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL | | | | | |
| CONDENSATE DRAIN SIZE | | | mm/in | 19.05 / 3/4 | | | | |
| AIR FILTER | | | CORRUGATED WASHABLE SARAN NET (OPTIONAL IONIZER FILTER) | | | | | |
| PACKING DIMENSION () - PANEL | HEIGHT | mm/in | 360 (110) / 14.2 (4.3) | | | | | |
| | WIDTH | mm/in | 725 (840) / 28.5 (33.1) | | | | | |
| | DEPTH | mm/in | 725 (840) / 28.5 (33.1) | | | | | |
| POWER SOURCE | | | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | |
| OUTDOOR UNIT | COMPRESSOR | COMPRESSOR TYPE | | ROTARY | ROTARY | ROTARY | | |
| | | CAPACITOR | µF | 45 | 45 | 50 | | |
| | | LOCK ROTOR AMPERE | A | 55 | 62 | 66 | | |
| | | RATED RUNNING CURR. (COOLING) | A | 9.1 | 11.0 | 12.6 | | |
| | | RATED RUNNING CURR. (HEATING) | A | 8.7 | 10.9 | 11.3 | | |
| | | RATED INPUT POWER (COOLING) | W | 1925 | 2230 | 2545 | | |
| | | RATED INPUT POWER (HEATING) | W | 1782 | 2170 | 2127 | | |
| | | PROTECTION DEVICE | | INTERNAL THERMAL OVERLOAD | | | | |
| | FAN | POWER SOURCE | V/Ph/Hz | 220 - 240 / 1 / 50 | | | | |
| | | FAN TYPE / DRIVE | | CENTRIFUGAL / DIRECT | | | | |
| | | BLADE MATERIAL | | ZINC COATED STEEL | | | | |
| | | DIAMETER | mm/in | 254 x 203 / 10 x 8 | | | | |
| | | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 | | | |
| | | STATIC PRESSURE | mm Aq | 8 | 5 | 5 | | |
| | | RATED RUNNING CURRENT | A | 1.83 | 2.00 | 2.00 | | |
| | | MOTOR FULL LOAD OUTPUT | W | 373 | 373 | 373 | | |
| | | RATED INPUT POWER | W | 414 | 453 | 453 | | |
| | | COIL | TUBE | MATERIAL | | S.I.G.C | | |
| | | | | DIAMETER | mm/in | 9.52 / 3/8 | | |
| | | | | THICKNESS | mm/in | 0.36 / 0.014 | | |
| MATERIAL | | | | ALUMINIUM / SLIT | | | | |
| FIN | THICKNESS | | mm/in | 0.127 / 0.005 | | | | |
| | ROW | | | 2 | 3 | 3 | | |
| | FIN PER INCH | | | 16 | 16 | 16 | | |
| | FACE AREA | | m ² /ft ² | 0.37 / 3.98 | | | | |
| DIMENSION | HEIGHT | mm/in | 436 / 17.2 | | | | | |
| | WIDTH | mm/in | 1240 / 48.8 | | | | | |
| | DEPTH | mm/in | 586 / 23.1 | | | | | |
| WEIGHT | | | kg | 77 | 82 | 84 | | |
| SOUND PRESSURE LEVEL | | | dBA | 46 | 47 | 48 | | |
| CASING | MATERIAL | | GALVANISED MILD STEEL | | | | | |
| | THICKNESS | mm/in | 1.0 / 0.039 | | | | | |
| | FINISHING | | POLYESTER POWDER | | | | | |
| PIPE | TYPE | | FLARE VALVE | | | | | |
| | | SIZE | LIQUID | mm/in | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 | |
| | PACKING DIMENSION | GAS | mm/in | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 | | |
| | | HEIGHT | mm/in | 618 / 24.3 | | | | |
| | | WIDTH | mm/in | 1347 / 53.0 | | | | |
| | | DEPTH | mm/in | 703 / 27.7 | | | | |

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

- a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
- b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

4) ALLOWABLE OPERATING RANGE

- a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
- b) HEATING - 21.0°C DB INDOOR AND -2°C DB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

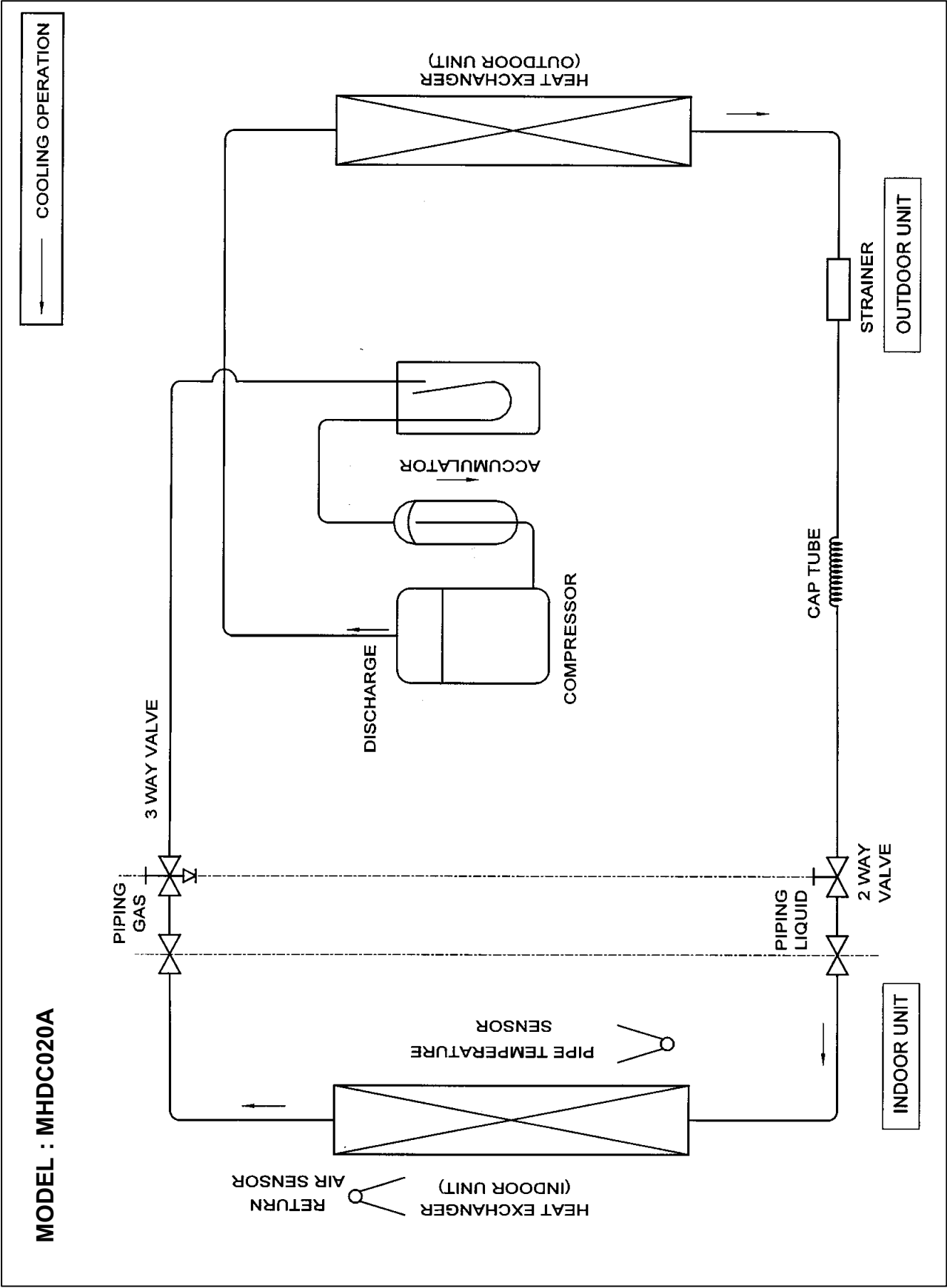
CEILING CONCEALED – MCC C SERIES (HEATPUMP)

| MODEL | | INDOOR UNIT | MCC020CR | MCC025CR | MCC030CR |
|--|---------------------------------|---------------------------------|-------------------------------------|----------------|--------------------|
| | | OUTDOOR UNIT | MHDC020AR | MHDC025AR | MHDC030AR |
| NOMINAL COOLING CAPACITY | | kcal/h | 4964 | 5947 | 6904 |
| | | W | 5774 | 6917 | 7913 |
| NOMINAL HEATING CAPACITY | | Btu/h | 19700 | 23600 | 27000 |
| | | kcal/h | 5191 | 6426 | 7182 |
| EFFECTIVE TOTAL POWER (COOLING) | | W | 2251 | 2667 | 3012 |
| | | Btu/h | 2108 | 2607 | 2594 |
| EFFECTIVE TOTAL POWER (HEATING) | | W | 2480 | 2848 | 3368 |
| | | Btu/h | 2337 | 2788 | 2950 |
| NOMINAL TOTAL CURRENT (COOLING) | | A | 11.6 | 13.7 | 16.2 |
| | | A | 11.2 | 13.6 | 14.9 |
| POWER SOURCE | | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| REFRIGERANT / CONTROL | | | R22 / CAPILLARY TUBE IN OUTDOOR | | |
| FAN | AIR FLOW | cfm / L/s | 700 / 330 | 730 / 345 | 900 / 425 |
| | STATIC PRESSURE | mm Aq | 5 | 5 | 21 |
| | FAN MOTOR | | 4 POLES x 80W | 4 POLES x 100W | 4 POLES x 320W |
| | RATED INPUT POWER | W | 141 | 165 | 370 |
| COIL | RATED RUNNING CURRENT | A | 0.61 | 0.71 | 1.60 |
| | MATERIAL | | S.B.C. | S.I.G.C | S.B.C. |
| | DIAMETER | mm/in | 9.52 / 3/8 | | |
| | THICKNESS | mm/in | 0.35 / 0.014 | | |
| FIN | MATERIAL | | ALUMINIUM | | |
| | THICKNESS | mm/in | 0.11 / 0.0043 | | |
| | ROW | | 3 | 3 | 3 |
| | FIN PER INCH | | 12 | 12 | 12 |
| FACE AREA | | m ² /ft ² | 0.176 / 1.892 | 0.203 / 2.187 | 0.270 / 2.98 |
| | HEIGHT | mm/in | 261 / 10.3 | 261 / 10.3 | 378 / 14.9 |
| | WIDTH | mm/in | 1065 / 41.9 | 1200 / 47.2 | 929 / 36.6 |
| | DEPTH | mm/in | 411 / 16.2 | 411 / 16.2 | 541 / 21.3 |
| WEIGHT | | kg | 22 | 25 | 39 |
| SOUND PRESSURE LEVEL (SH* / H / M / L) | | dBA | 38 / 36 / 34 | 40 / 39 / 36 | 49* / 46 / 42 / 38 |
| CONTROL | | ROOM TEMPERATURE OPERATION | MICROCOMPUTER CONTROLLED THERMOSTAT | | |
| CONDENSATE DRAIN SIZE | | mm/in | 19.05 / 3/4 | | |
| AIR FILTER | | | WASHABLE SARAN NET | | |
| PACKING DIMENSION | HEIGHT | mm/in | 410 / 16.1 | 410 / 16.1 | 399 / 15.7 |
| | WIDTH | mm/in | 1251 / 49.3 | 1386 / 54.6 | 1110 / 43.7 |
| | DEPTH | mm/in | 535 / 21.1 | 535 / 21.1 | 615 / 24.2 |
| | | | | | |
| POWER SOURCE | | V/Ph/Hz | 220 - 240 / 1 / 50 | | |
| COMPRESSOR | COMPRESSOR TYPE | | ROTARY HERMETIC | | |
| | CAPACITOR | µF | 45 | 45 | 50 |
| | LOCK ROTOR AMP. | A | 55 | 62 | 66 |
| | RATED RUNNING CURRENT (COOLING) | A | 9.1 | 11.0 | 12.6 |
| FAN | RATED RUNNING CURRENT (HEATING) | A | 8.7 | 10.9 | 11.3 |
| | RATED INPUT POWER (COOLING) | W | 1925 | 2230 | 2545 |
| | RATED INPUT POWER (HEATING) | W | 1782 | 2170 | 2127 |
| | PROTECTION DEVICE | | OVERLOAD PROTECTION | | |
| FAN | FAN TYPE / DRIVE | | BLOWER WHEEL / DIRECT | | |
| | BLADE MATERIAL | | ZINC COATED STEEL | | |
| | DIAMETER | mm/in | 254 x 203 / 10 x 8 | | |
| | AIR FLOW | cfm / L/s | 1450 / 684 | 1500 / 708 | |
| COIL | STATIC PRESSURE | mm Aq | 8 | 5 | 5 |
| | RATED RUNNING CURRENT | A | 1.02 | 1.49 | 1.49 |
| | MOTOR FULL LOAD OUTPUT | W | 373 | 373 | 373 |
| | RATED INPUT POWER | W | 231 | 335 | 335 |
| FIN | MATERIAL | | S.I.G.C | | |
| | DIAMETER | mm/in | 9.52 / 3/8 | | |
| | THICKNESS | mm/in | 0.35 / 0.014 | | |
| | MATERIAL | | ALUMINIUM (SLIT FIN TYPE) | | |
| FACE AREA | THICKNESS | mm/in | 0.127 / 0.005 | | |
| | ROW | | 2 | 3 | 3 |
| | FIN PER INCH | | 16 | 16 | 16 |
| | | m ² /ft ² | 0.37 / 3.98 | | |
| DIMENSION | HEIGHT | mm/in | 436 / 17.2 | | |
| | WIDTH | mm/in | 1240 / 48.8 | | |
| | DEPTH | mm/in | 586 / 23.1 | | |
| | | | | | |
| WEIGHT | | kg | 77 | 82 | 84 |
| SOUND PRESSURE LEVEL | | dBA | 46 | 47 | 48 |
| CASING | MATERIAL | | GALVANISED MILD STEEL | | |
| | THICKNESS | mm/in | 0.8 / 0.031 | | |
| | FINISHING | | POLYESTER POWDER | | |
| | | | 25.4 / 1 | | |
| CONDENSATE DRAIN SIZE | | mm/in | FLARE VALVE | | |
| | TYPE | | | | |
| | SIZE | | | | |
| | | | | | |
| PACKING DIMENSION | LIQUID | mm/in | 6.35 / 1/4 | 9.52 / 3/8 | 9.52 / 3/8 |
| | GAS | mm/in | 15.88 / 5/8 | 15.88 / 5/8 | 15.88 / 5/8 |
| | HEIGHT | mm/in | 618 / 24.3 | | |
| | WIDTH | mm/in | 1347 / 53.0 | | |
| DEPTH | | mm/in | 703 / 27.7 | | |
| | | | | | |

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- ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
- NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
 - COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
 - HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
- ALLOWABLE OPERATING RANGE
 - COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
 - HEATING - 21.0°C DB INDOOR AND -2°C DB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

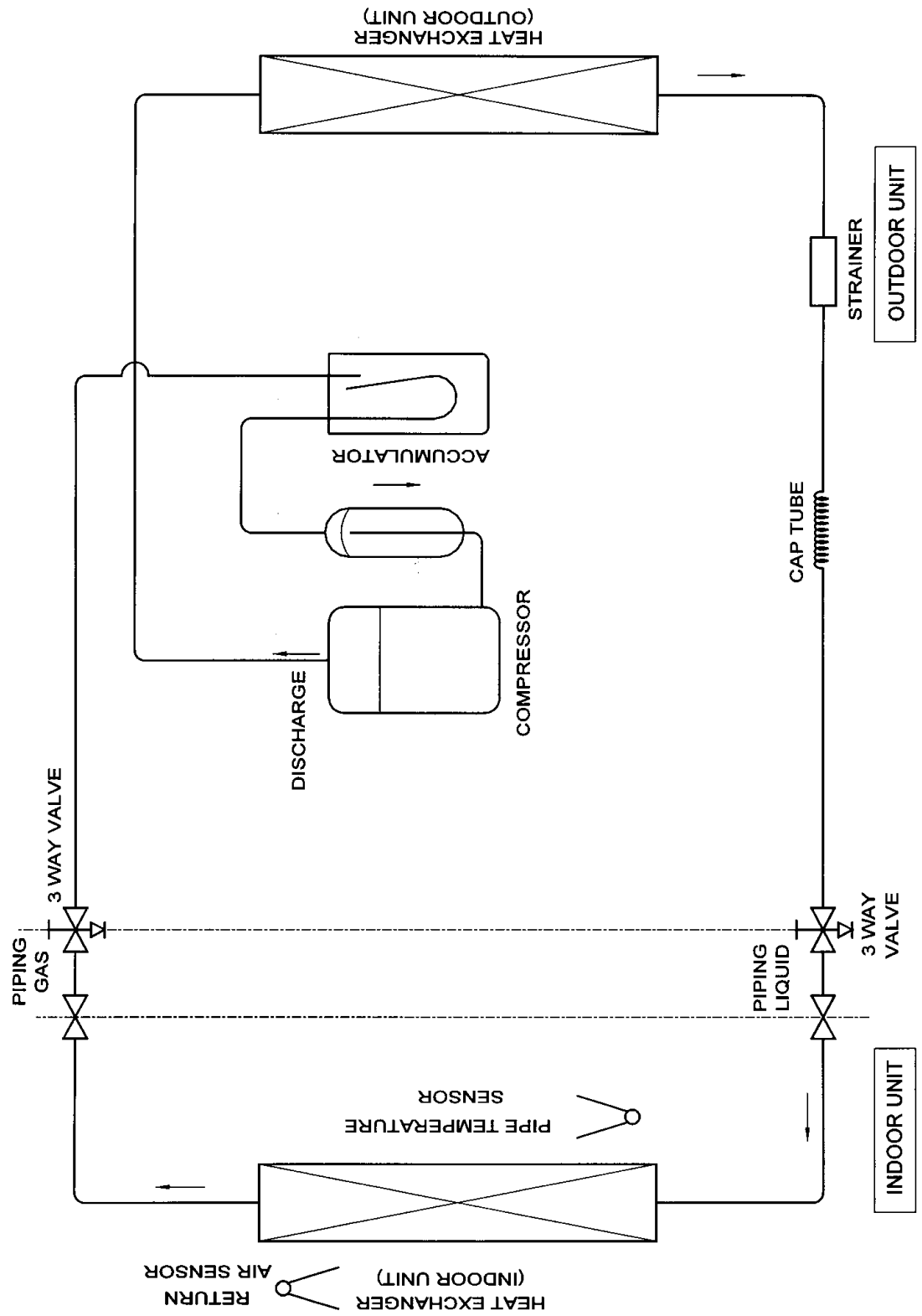
Abbreviation
S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Refrigerant Circuit



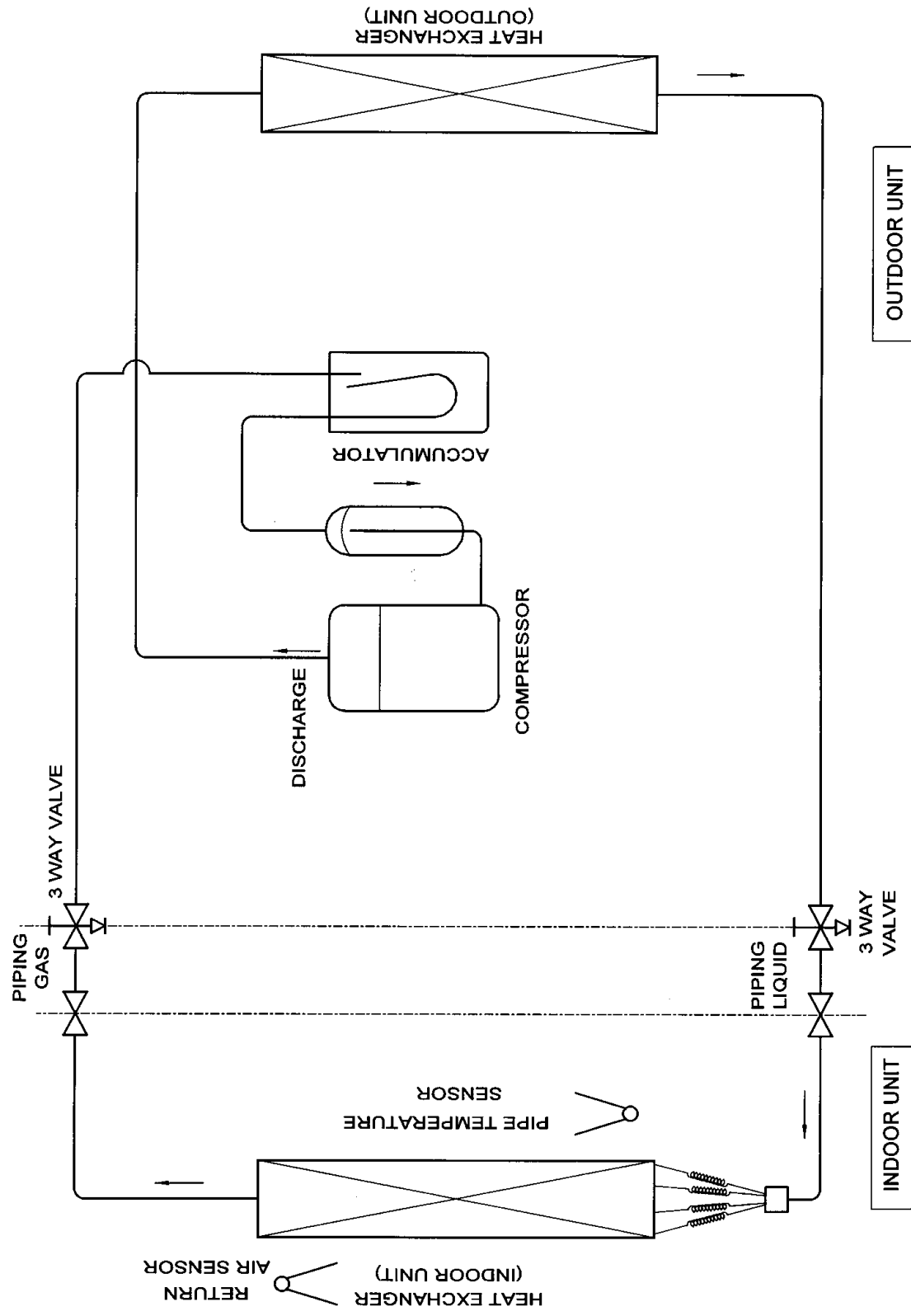
MODEL : MHD C025 / 030A

COOLING OPERATION

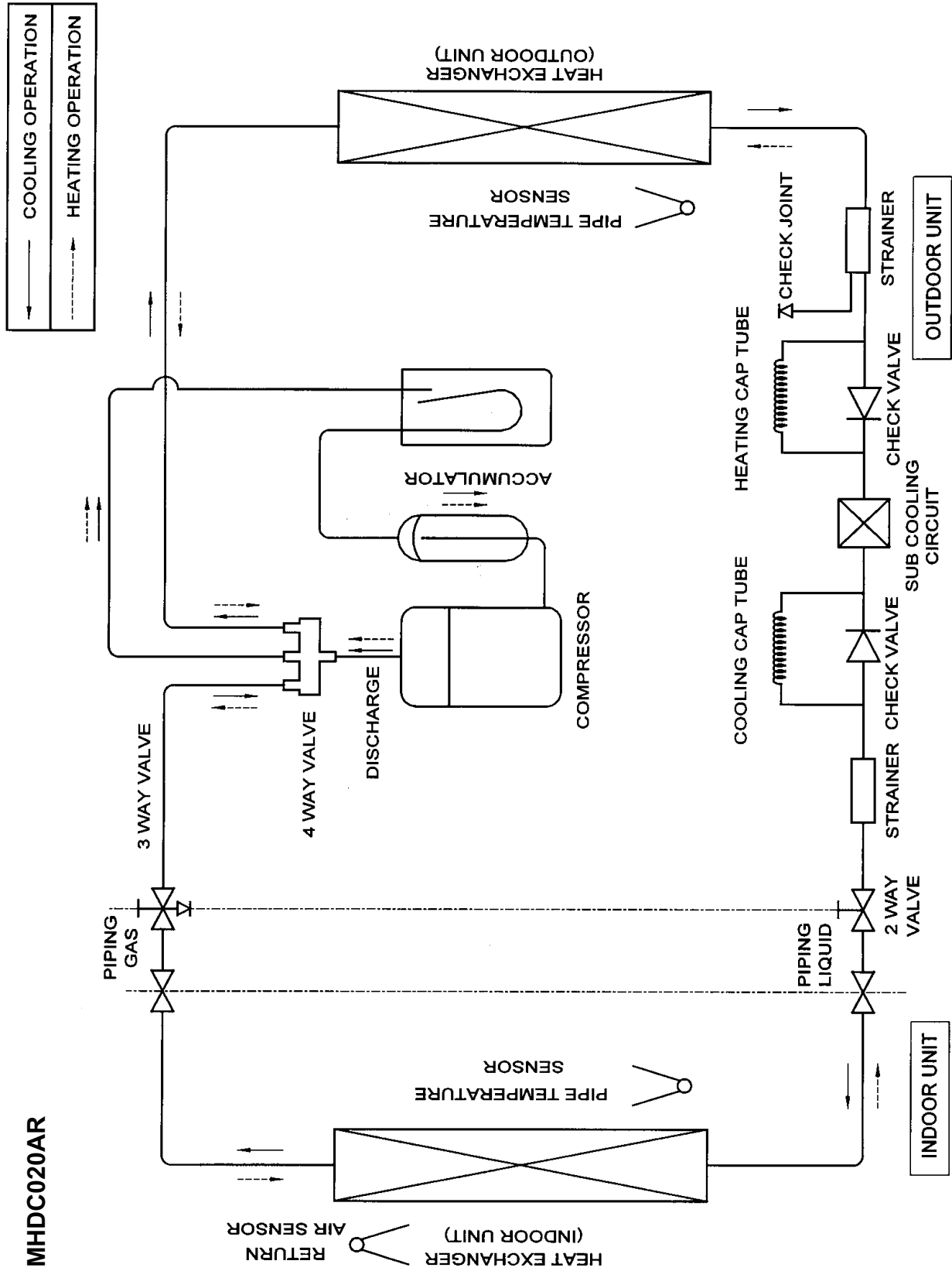


MODEL : MHDC030A (NCT)

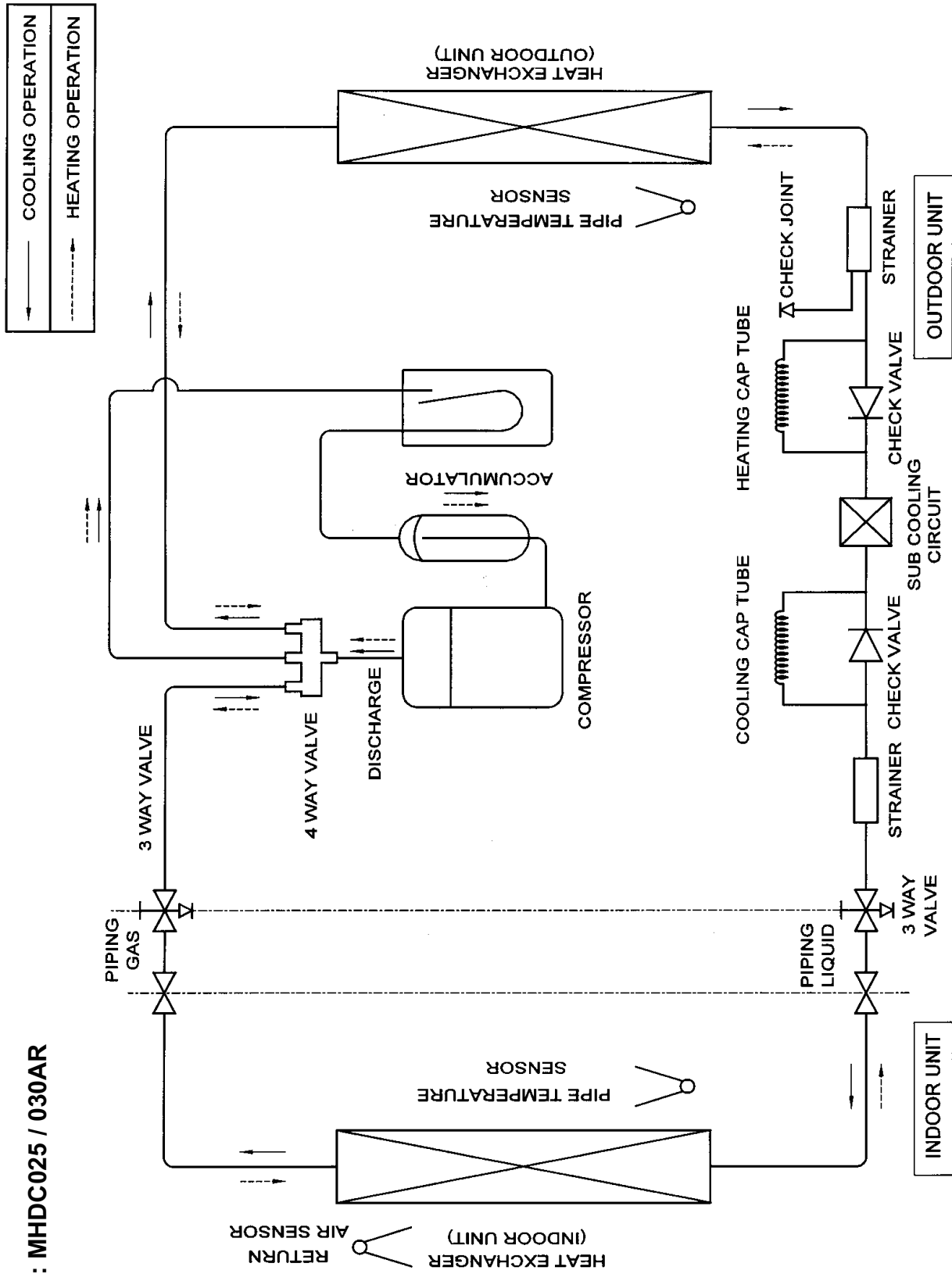
COOLING OPERATION



MODEL : MHDC020AR

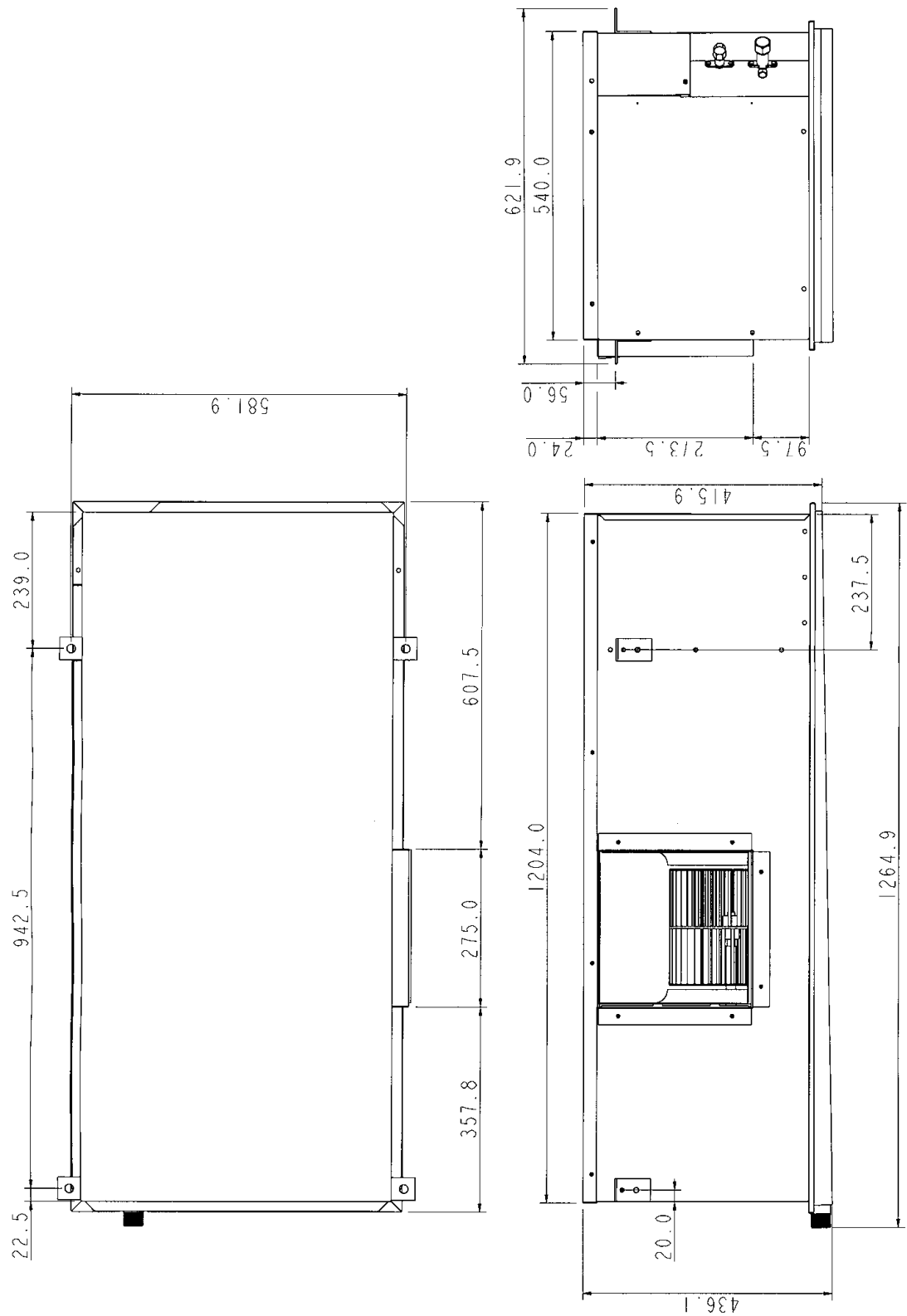


MODEL : MHDC025 / 030AR



Outlines And Dimension

MODEL : MHDC 020 / 025 / 030 A/AR

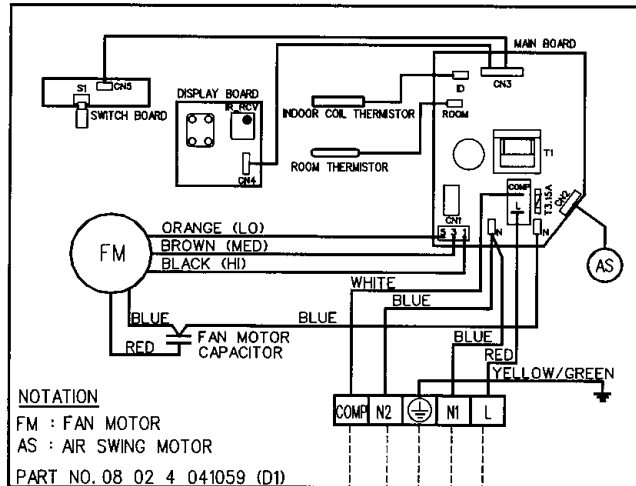


Wiring Diagrams

Wall Mounted

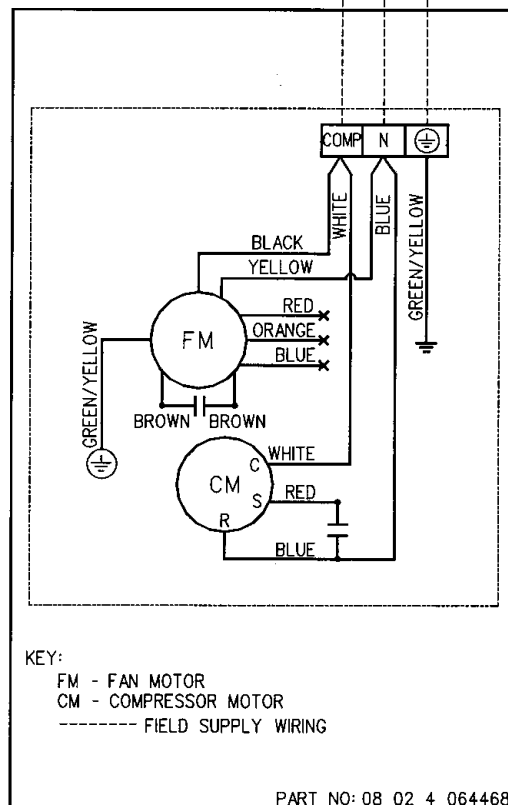
Indoor Unit

Model : MWM 020 / 025F



Outdoor Unit

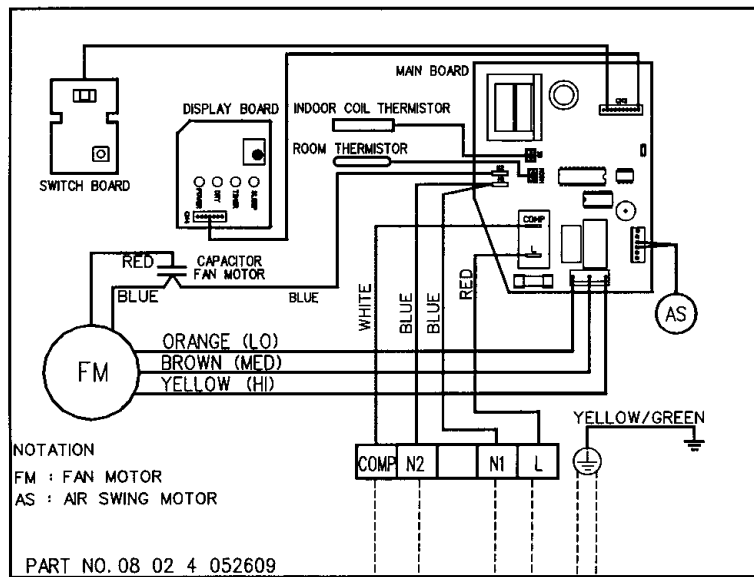
Model : MHDC 020 / 025A



Wall Mounted

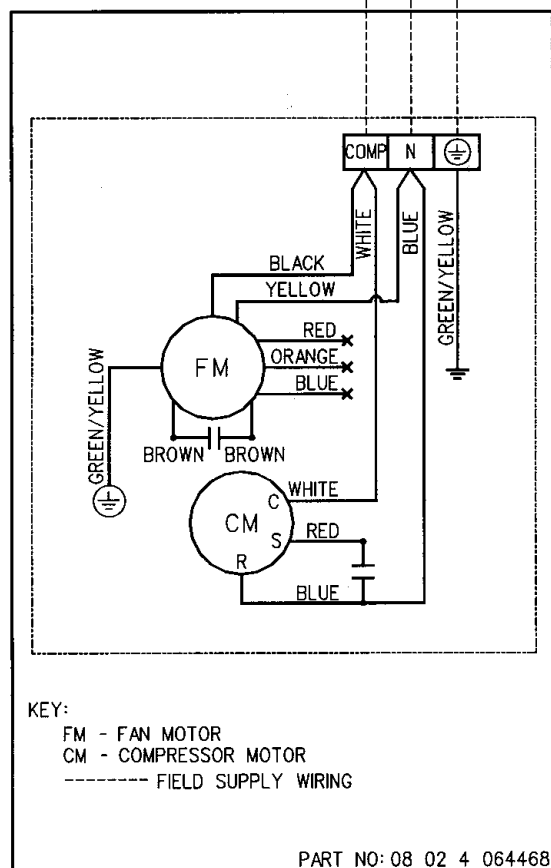
Indoor Unit

Model : MWM 031F

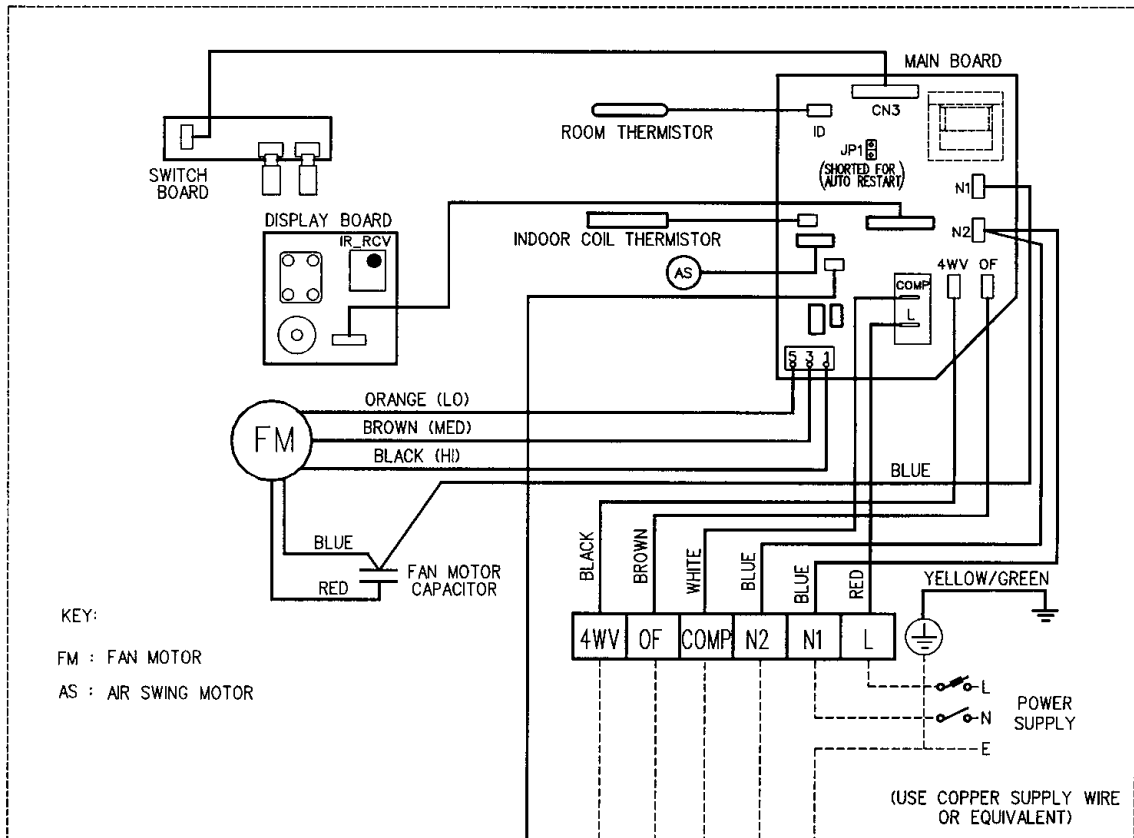


Outdoor Unit

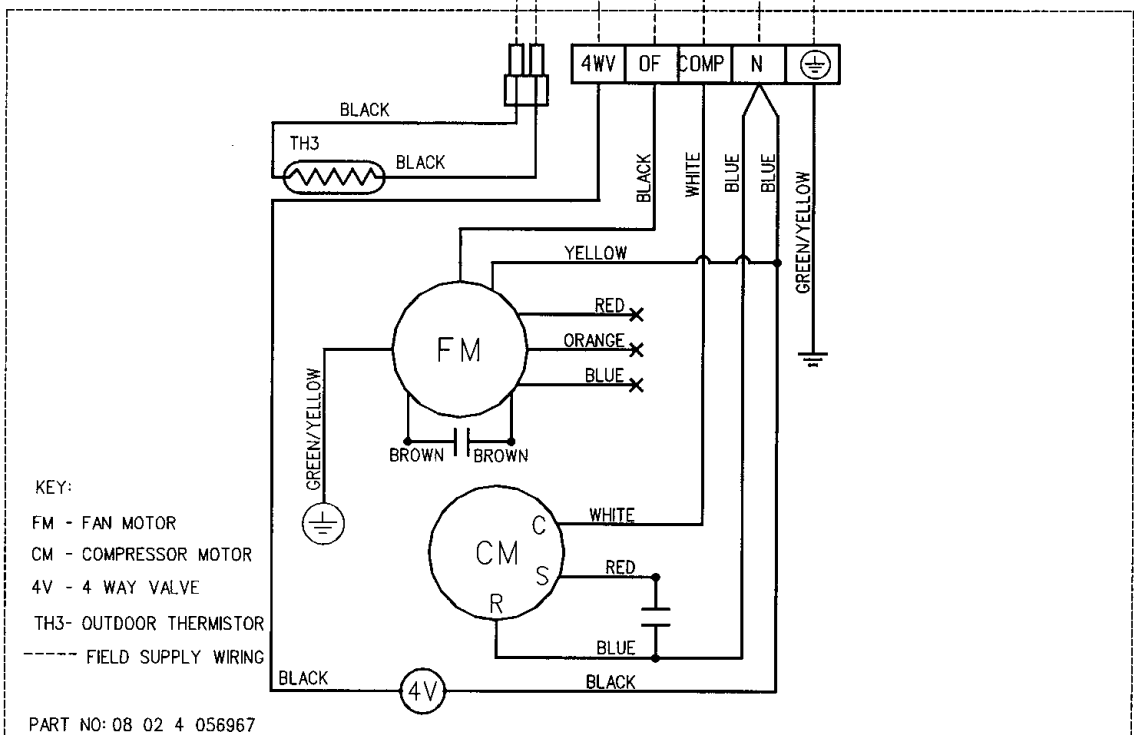
Model : MHDC 030A



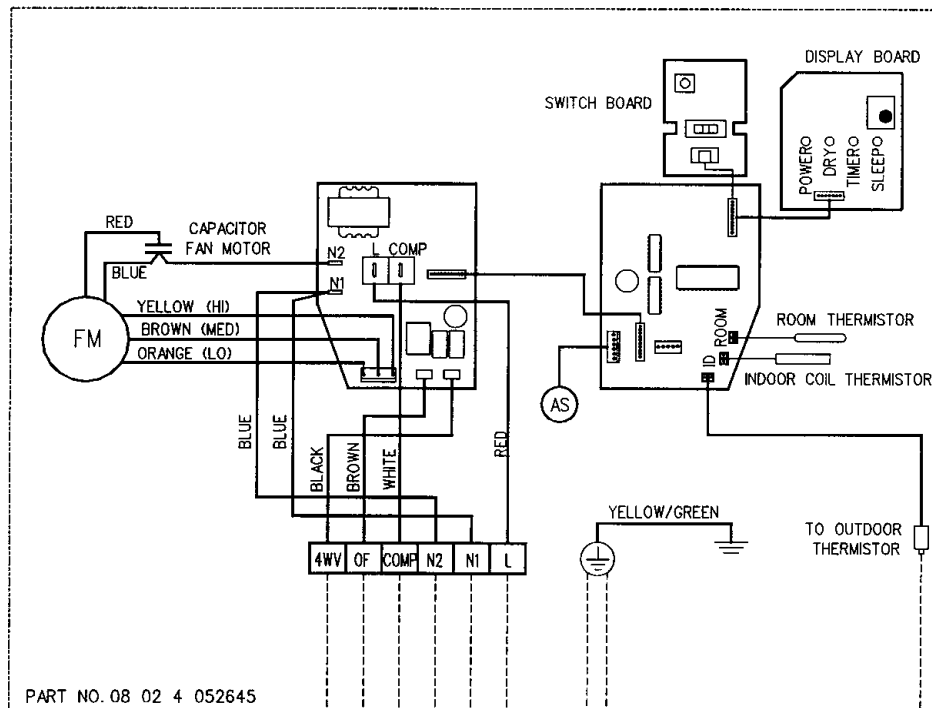
Indoor Unit
Model : MWM 020 / 025FR



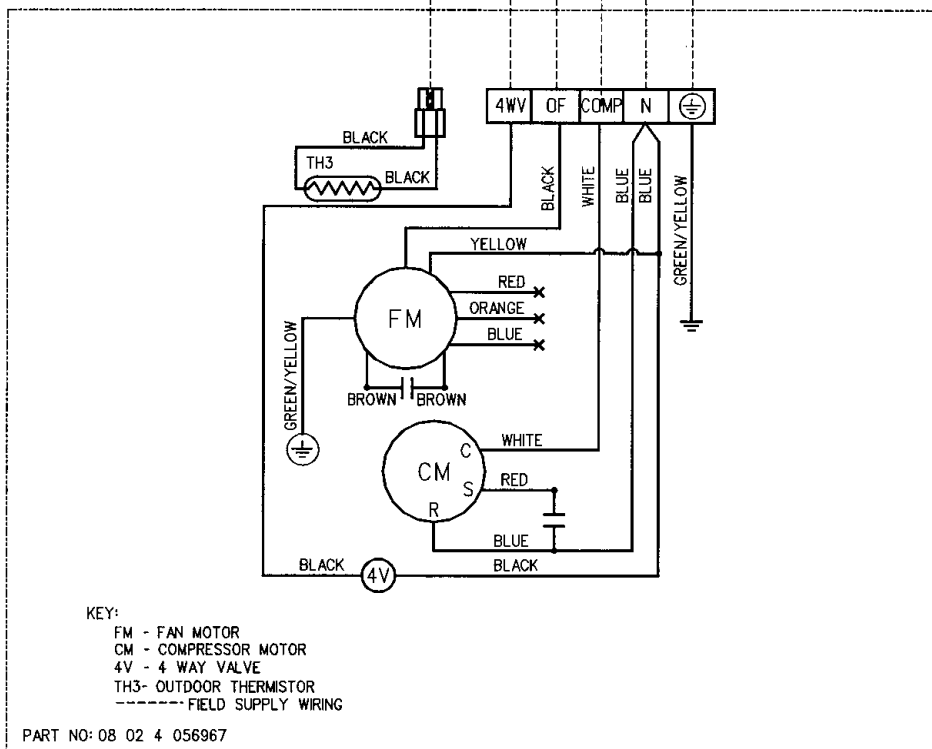
Outdoor Unit
Model : MHDC 020 / 025AR



Indoor Unit
Model : MWM 030FR



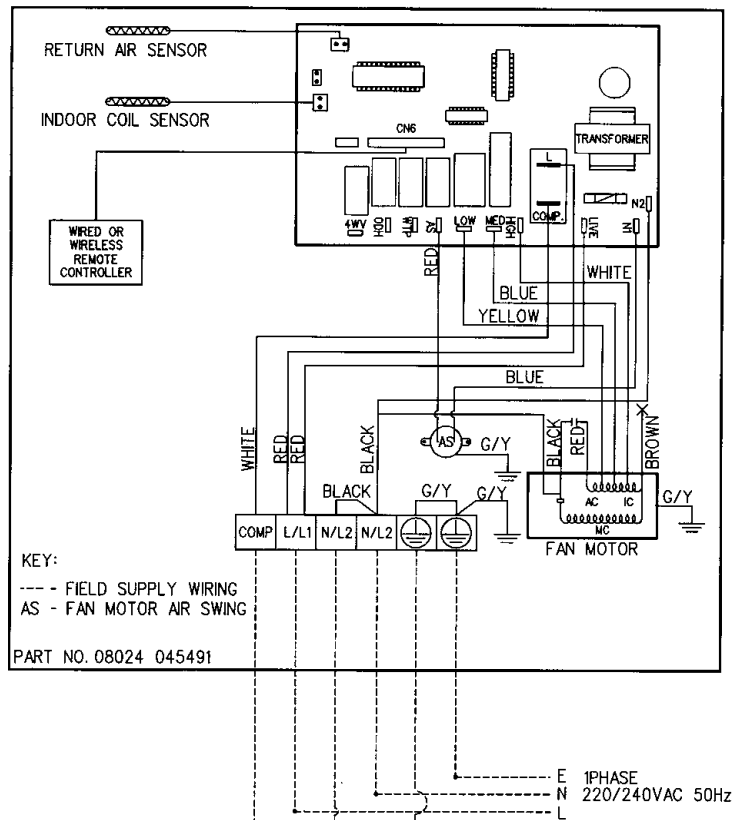
Outdoor Unit
Model : MHDC 030AR



Ceiling Convertible

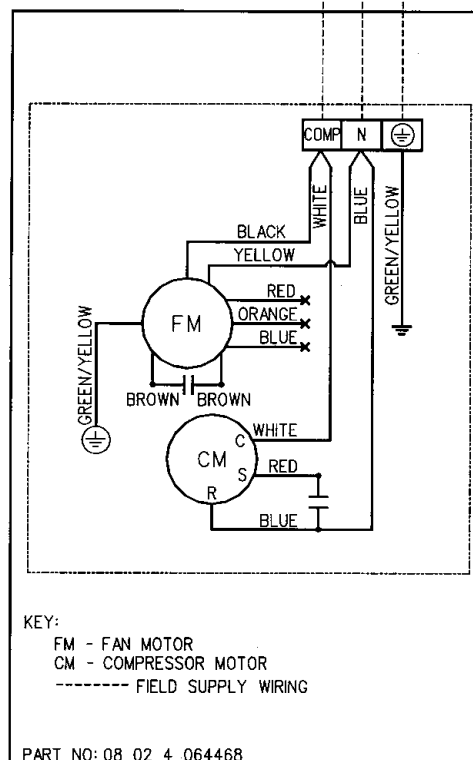
Indoor Unit

Model : MCM 020 / 025D

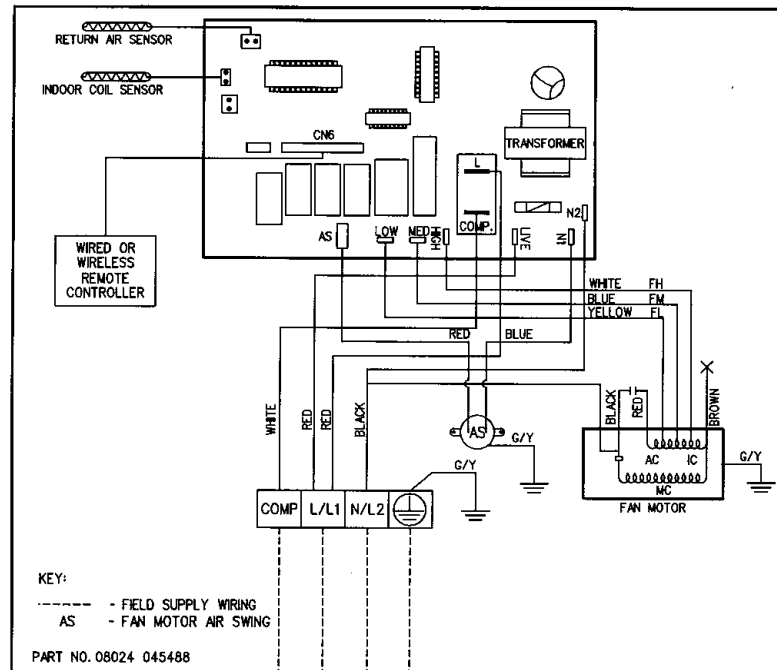


Outdoor Unit

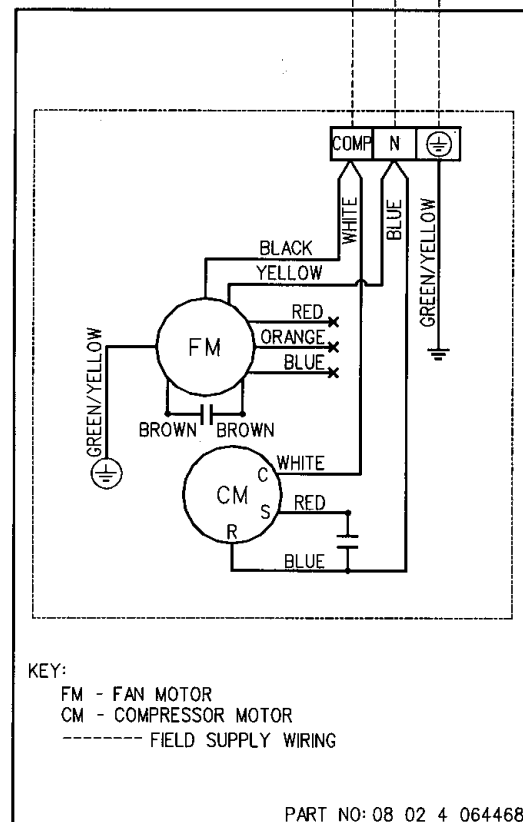
Model : MHDC 020 / 025A



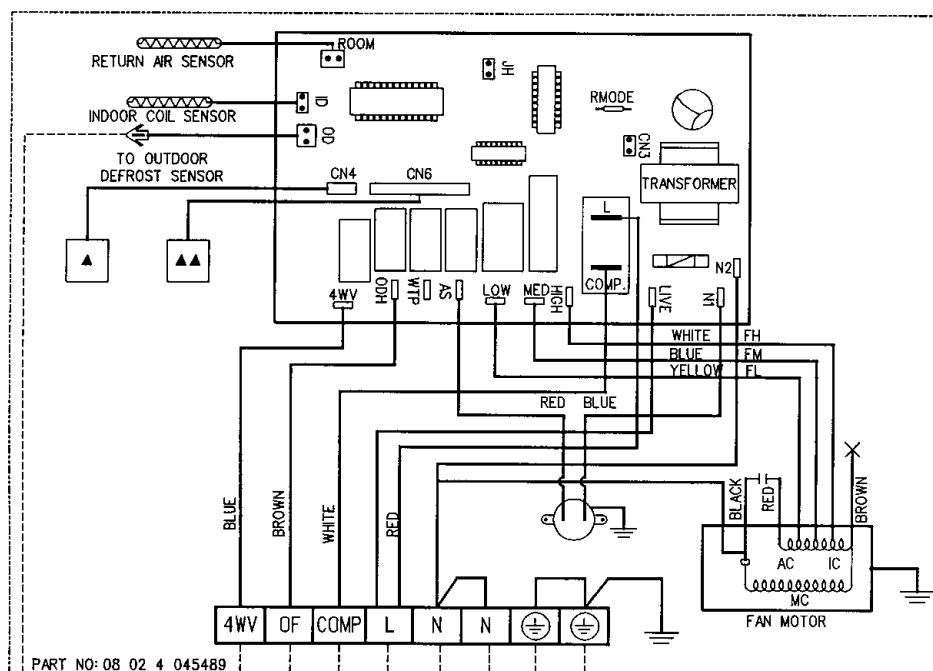
Indoor Unit
Model : MCM 030D



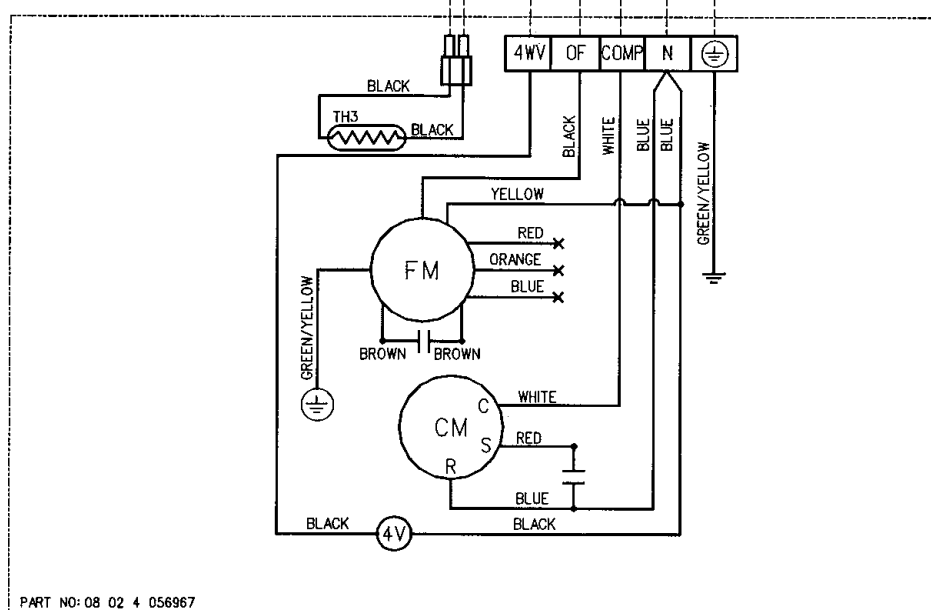
Outdoor Unit
Model : MHDC 030A



Indoor Unit
Model : MCM 020 / 025DR



Outdoor Unit
Model : MHDC 020 / 025AR



KEY:

CM - COMPRESSOR MOTOR WITH

FM - FAN MOTOR

4V - 4 WAY VALVE

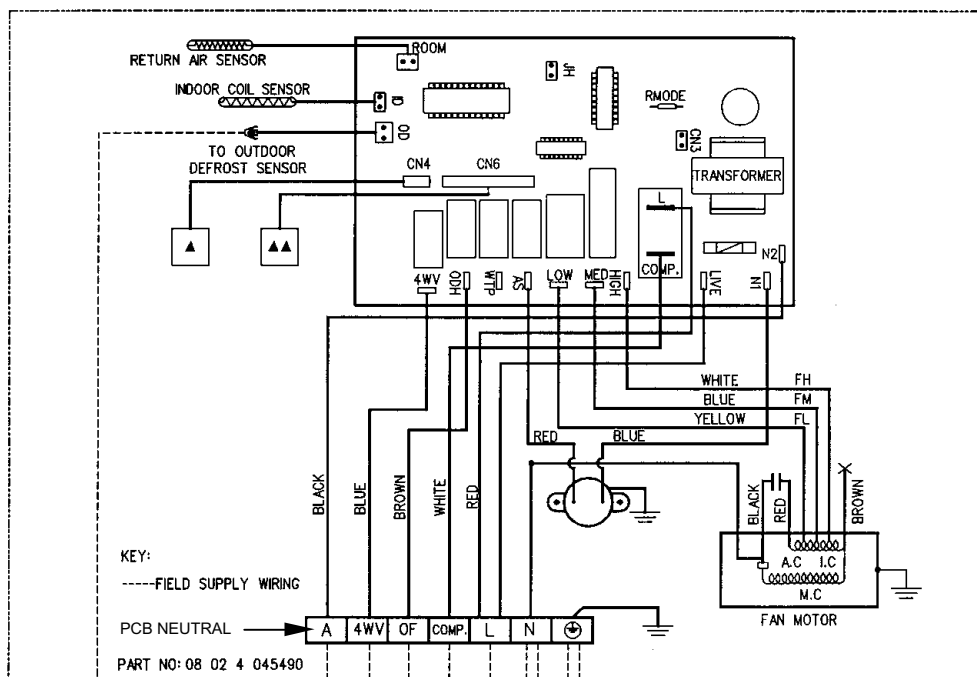
----- FIELD SUPPLY WIRING

▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT
 OF WIRELESS HANDSET

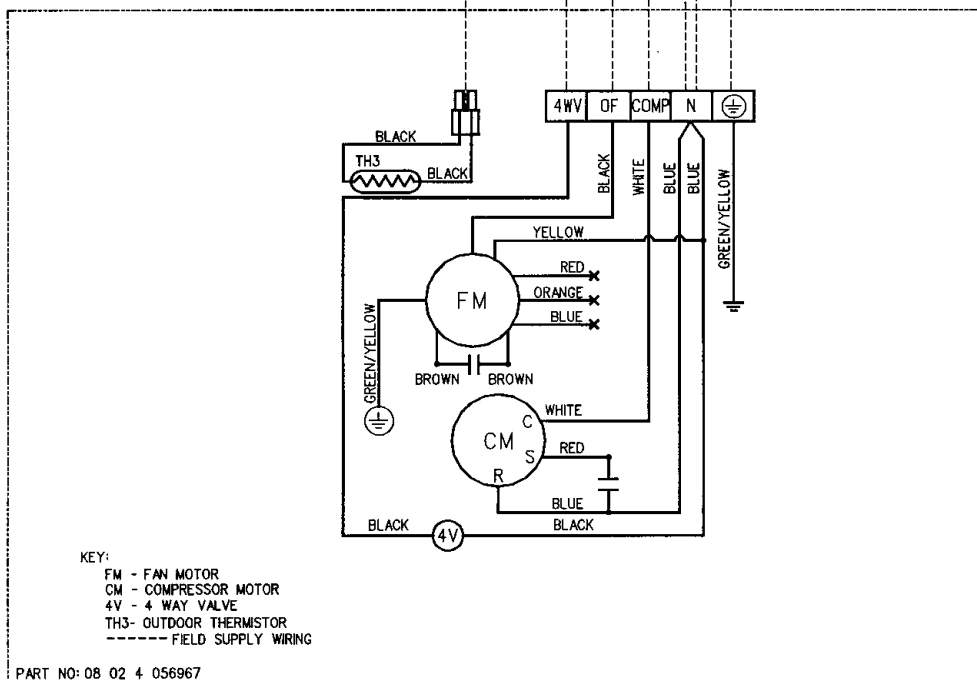
REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

Indoor Unit Model : MCM 030DR



220-240V 1Ph 50hz

Outdoor Unit Model : MHDC 030AR

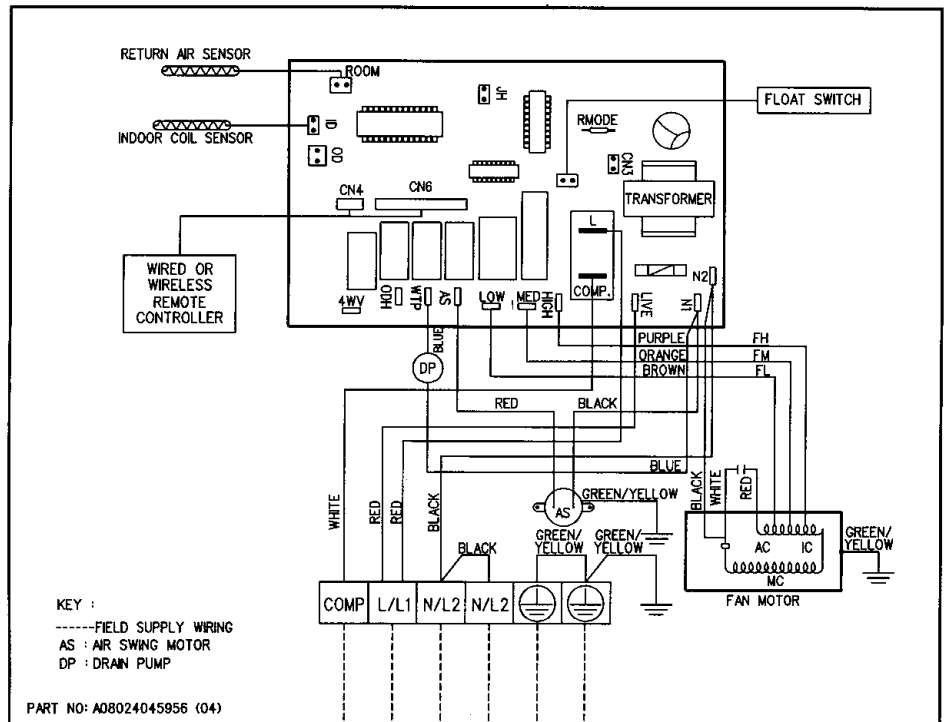


- ▲ CN4 IS CONNECTED TO WIRED HANDSET
- ▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET
- REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

Ceiling Cassette A Series

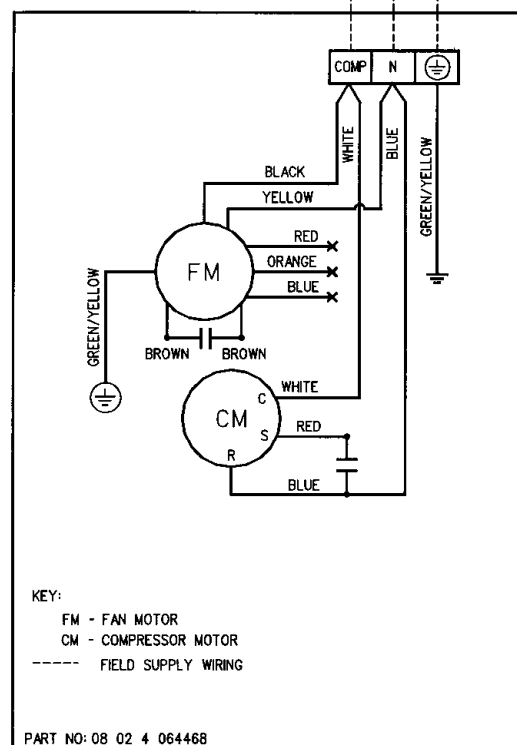
Indoor Unit

Model : MCK 020 / 025A

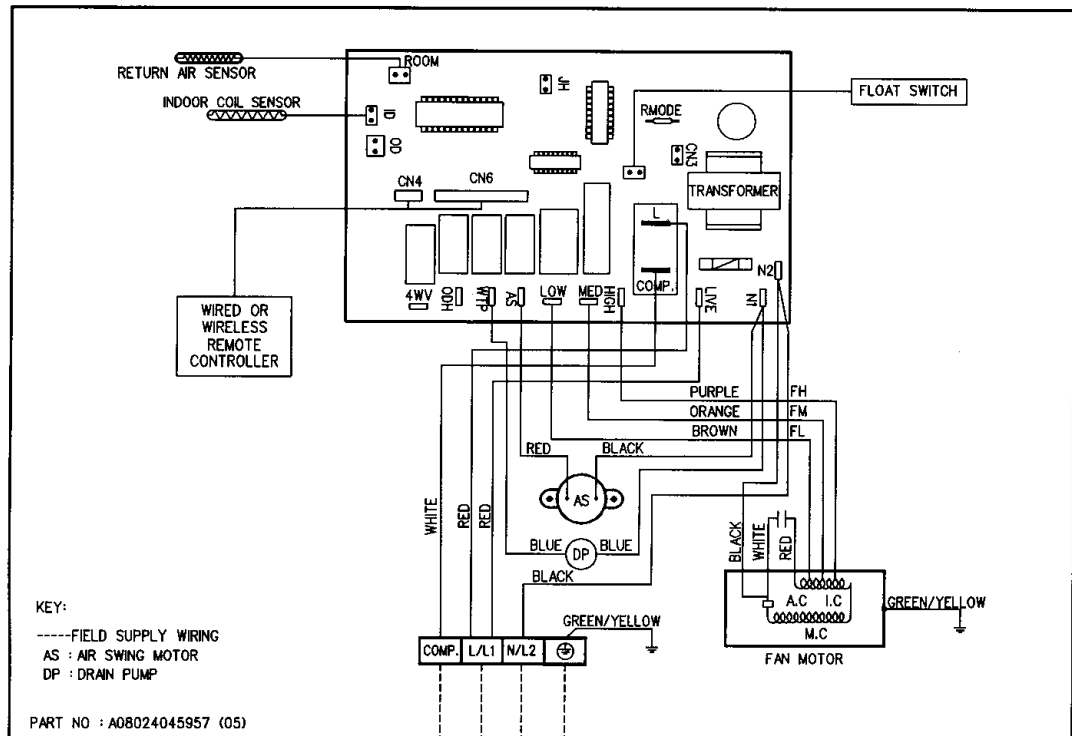


Outdoor Unit

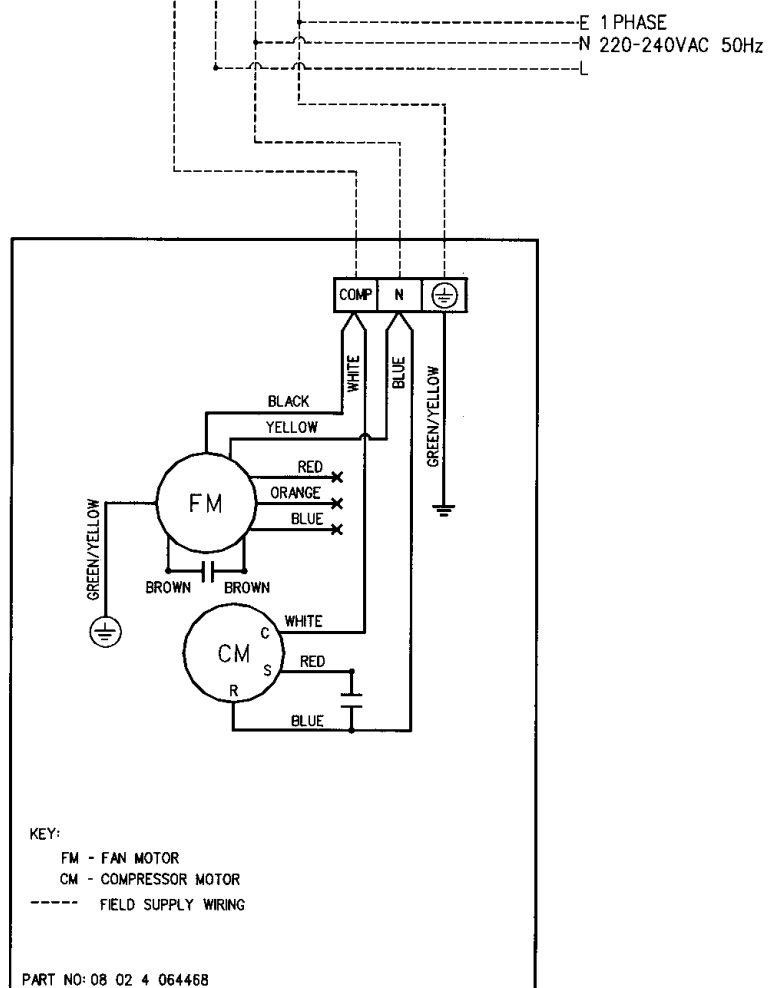
Model : MHDC 020 / 025A



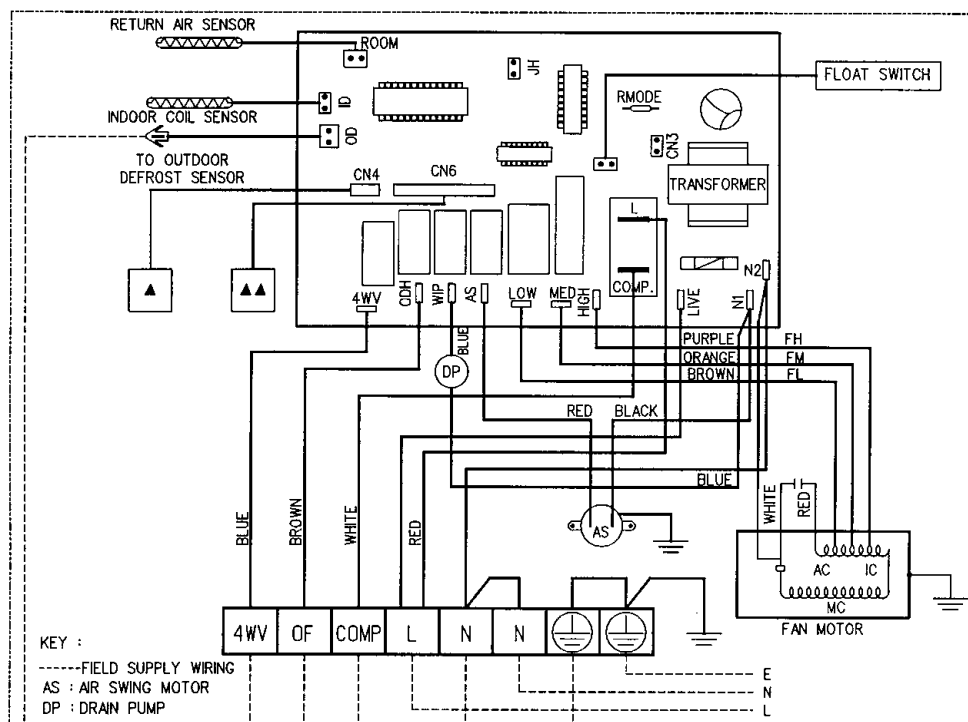
Indoor Unit
Model : MCK 030A



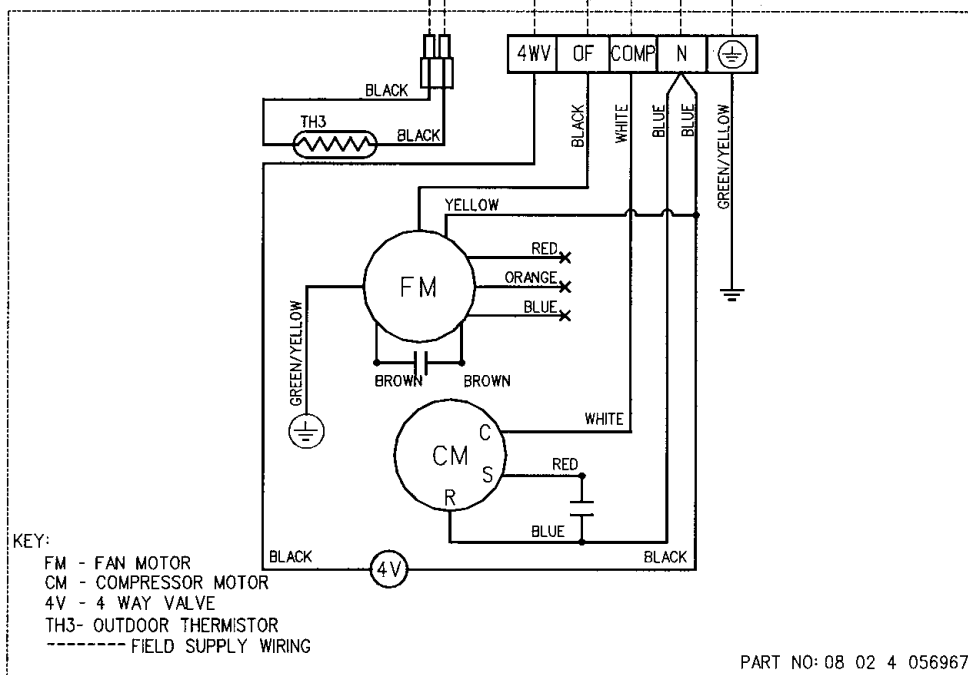
Outdoor Unit
Model : MHDC 030A



Indoor Unit
Model : MCK 020 / 025AR



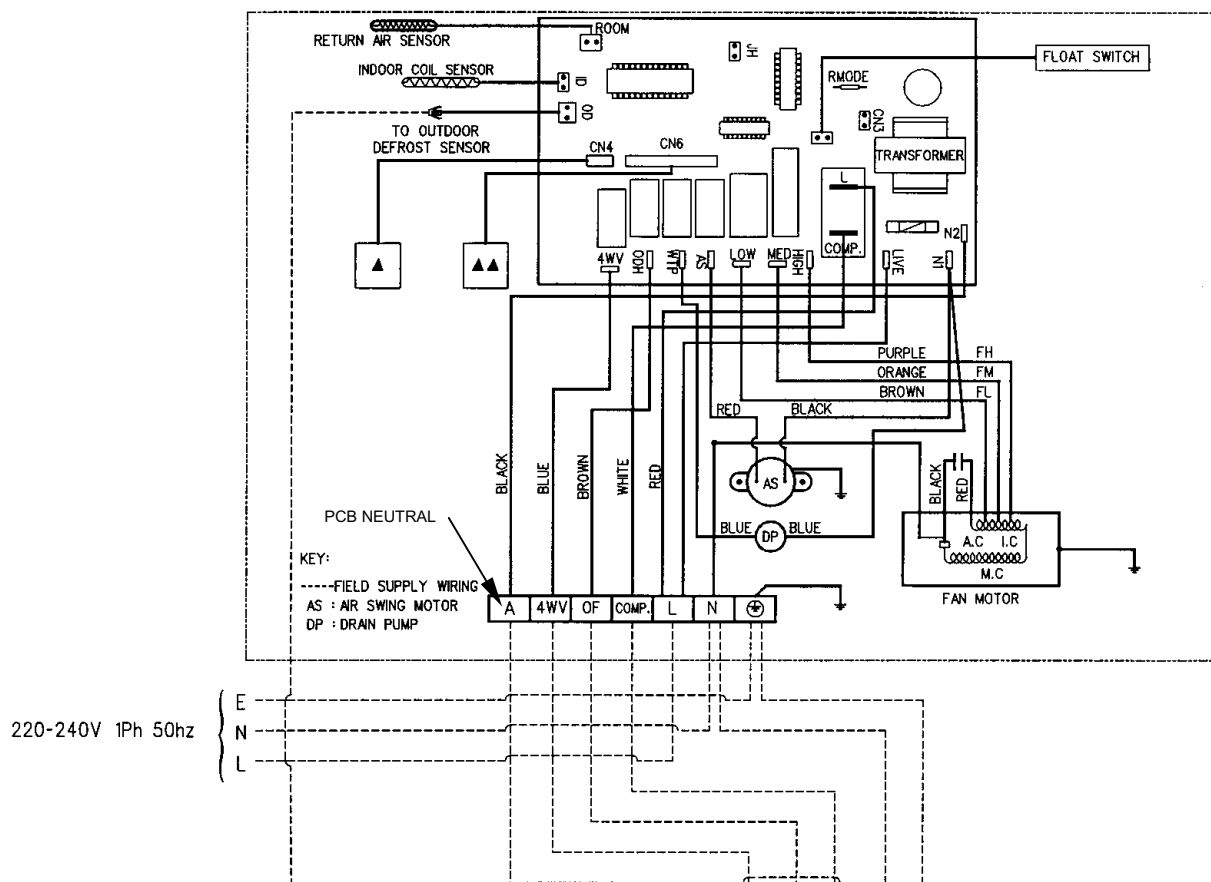
Outdoor Unit
Model : MHDC 020 / 025AR



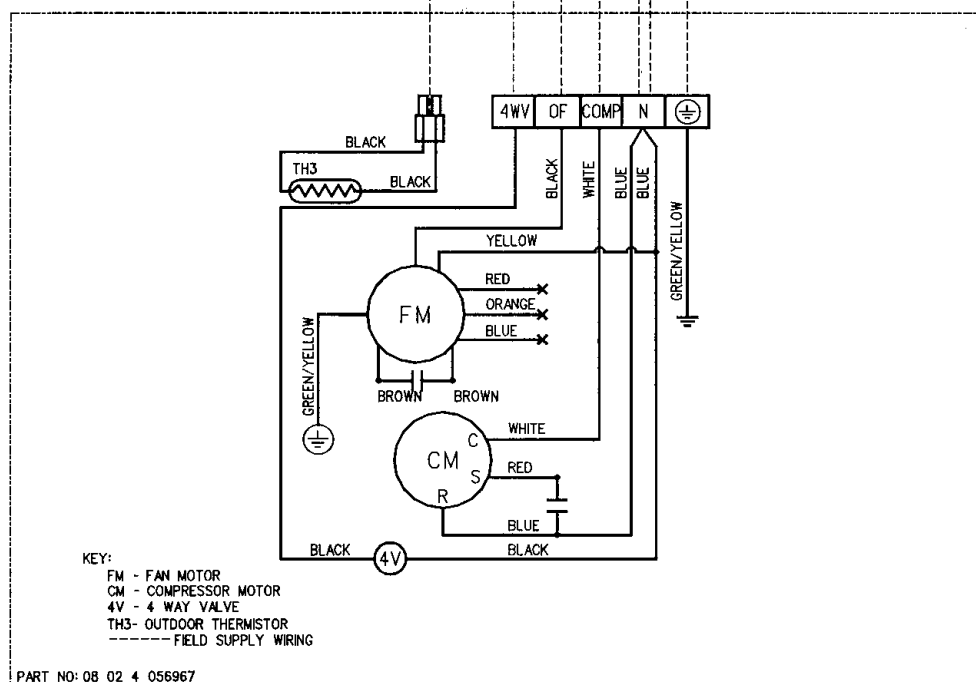
PART NO: 08 02 4 056967

- ▲ CN4 IS CONNECTED TO WIRED HANDSET
- ▲▲CN6 IS CONNECTED TO IR RECEIVER & INDICATOR LIGHT OF WIRELESS HANDSET
- REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

Indoor Unit Model : MCK 030AR



Outdoor Unit Model : MHDC 030AR

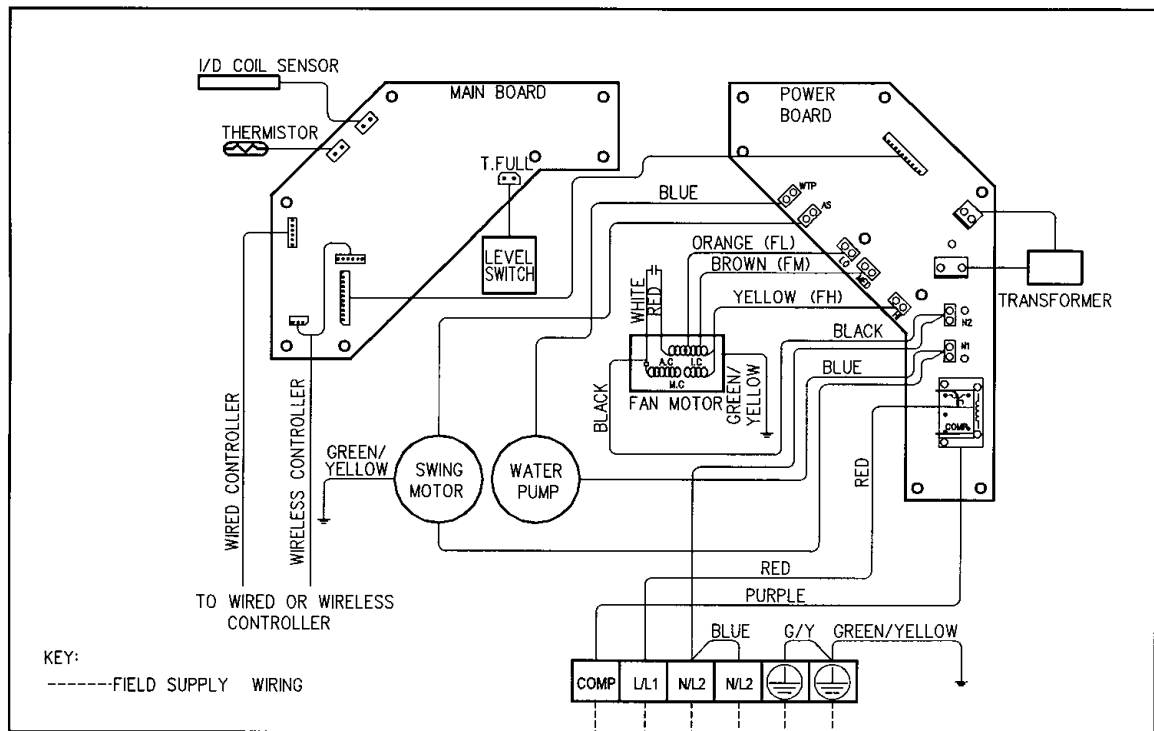


- ▲ CN4 IS CONNECTED TO WIRED HANDSET
- ▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET
- REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

Ceiling Cassette B Series

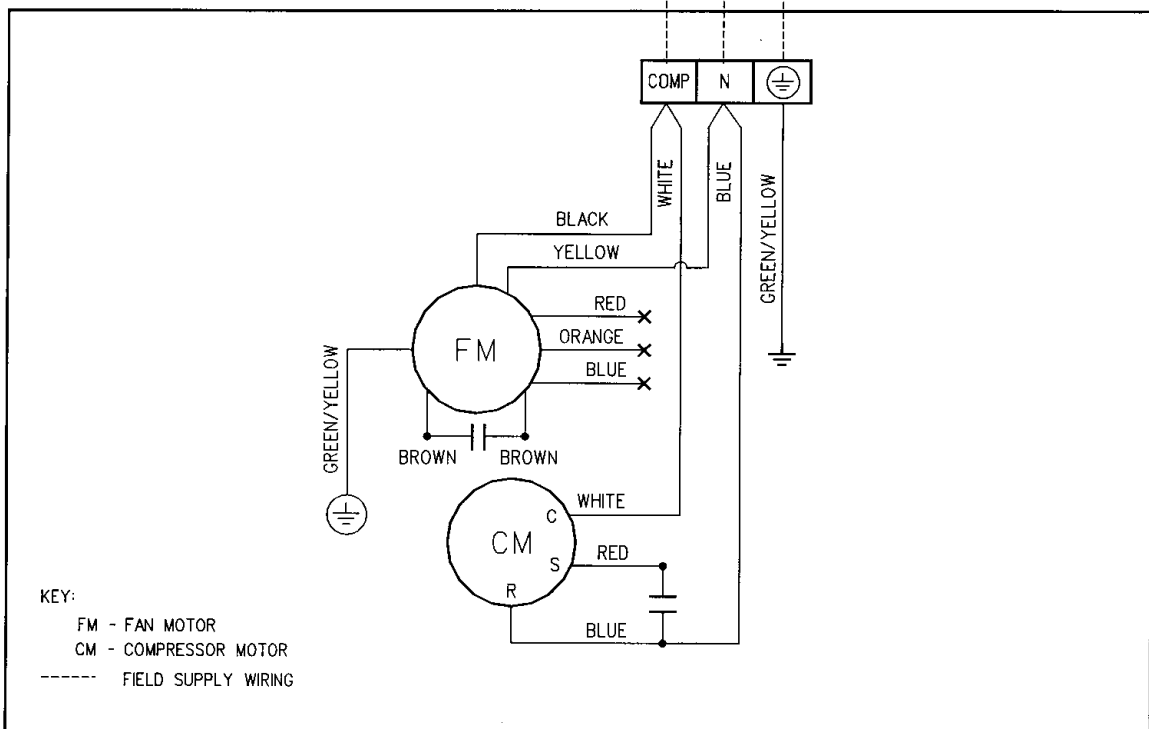
Indoor Unit

Model : MCK 020 / 025 / 030B

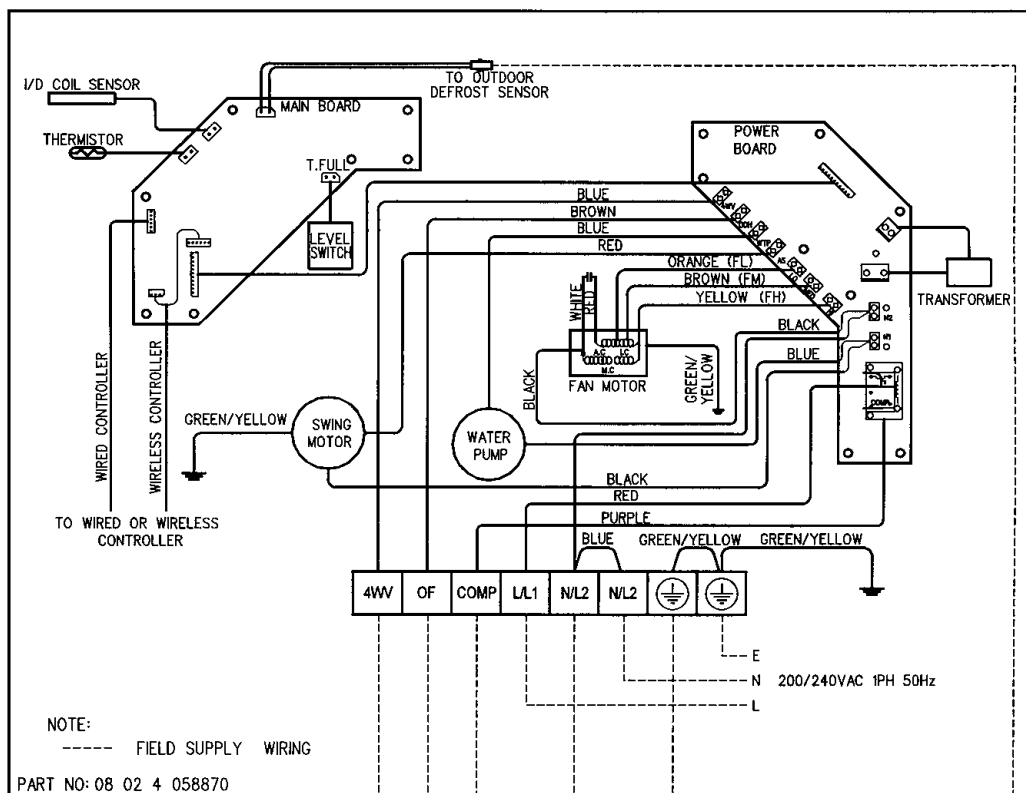


Outdoor Unit

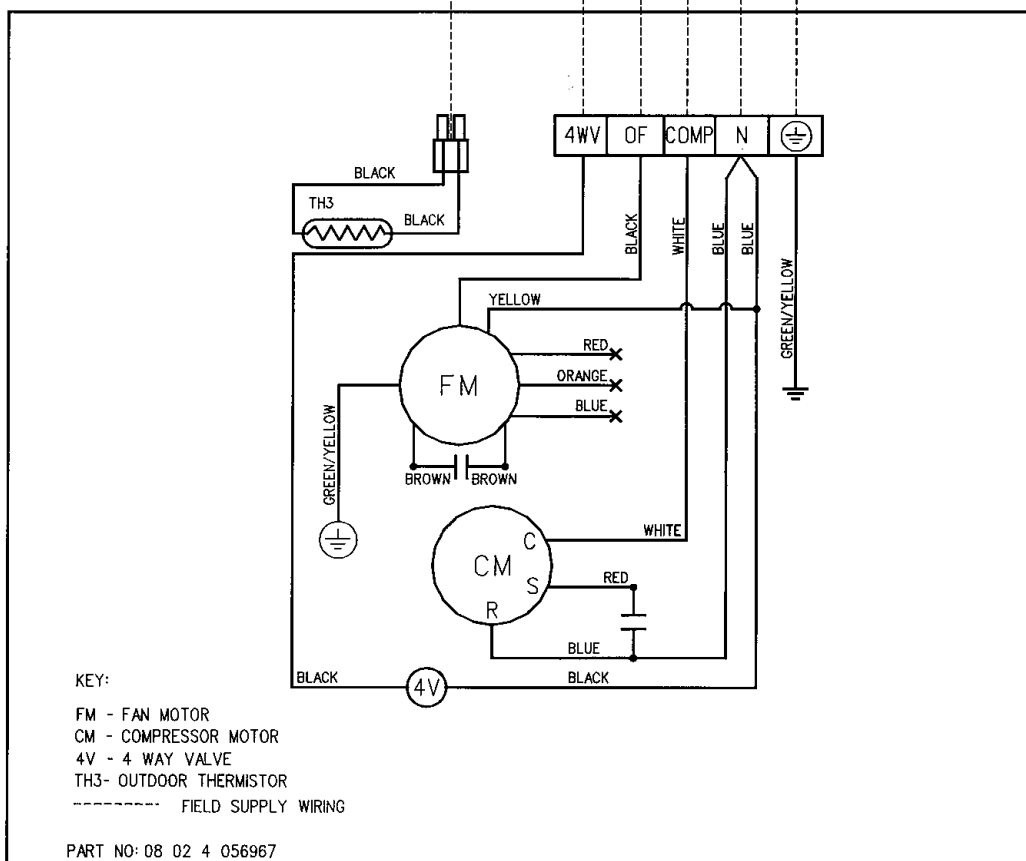
Model : MHDC 020 / 025 / 030A



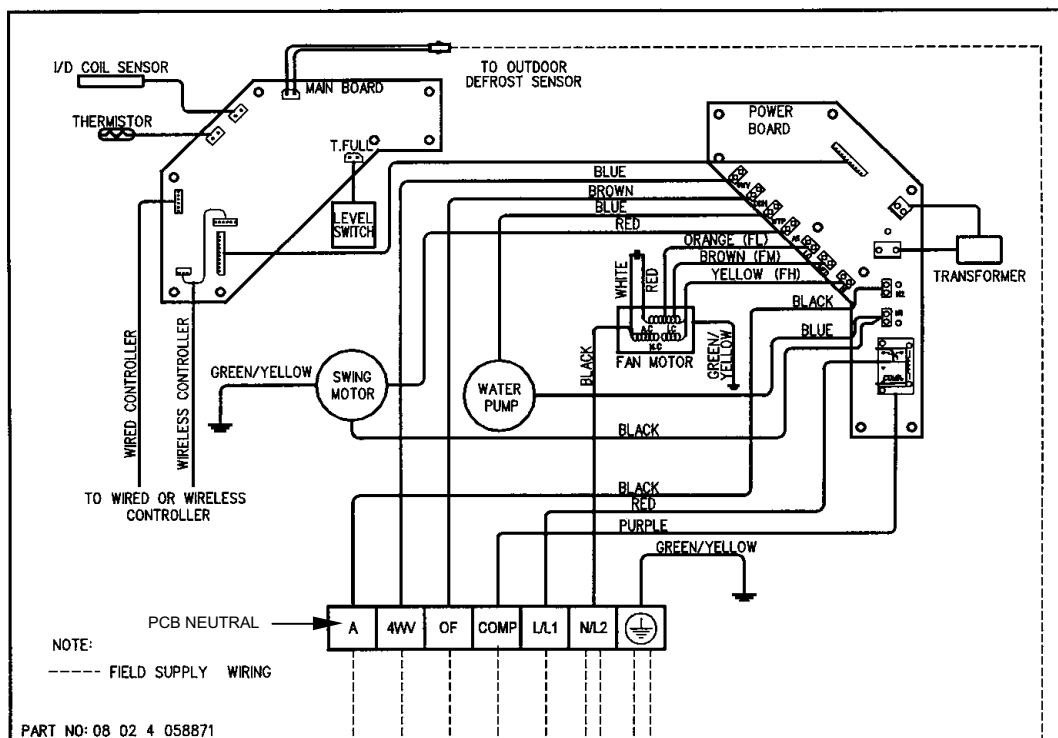
Indoor Unit
Model : MCK 020 / 025BR



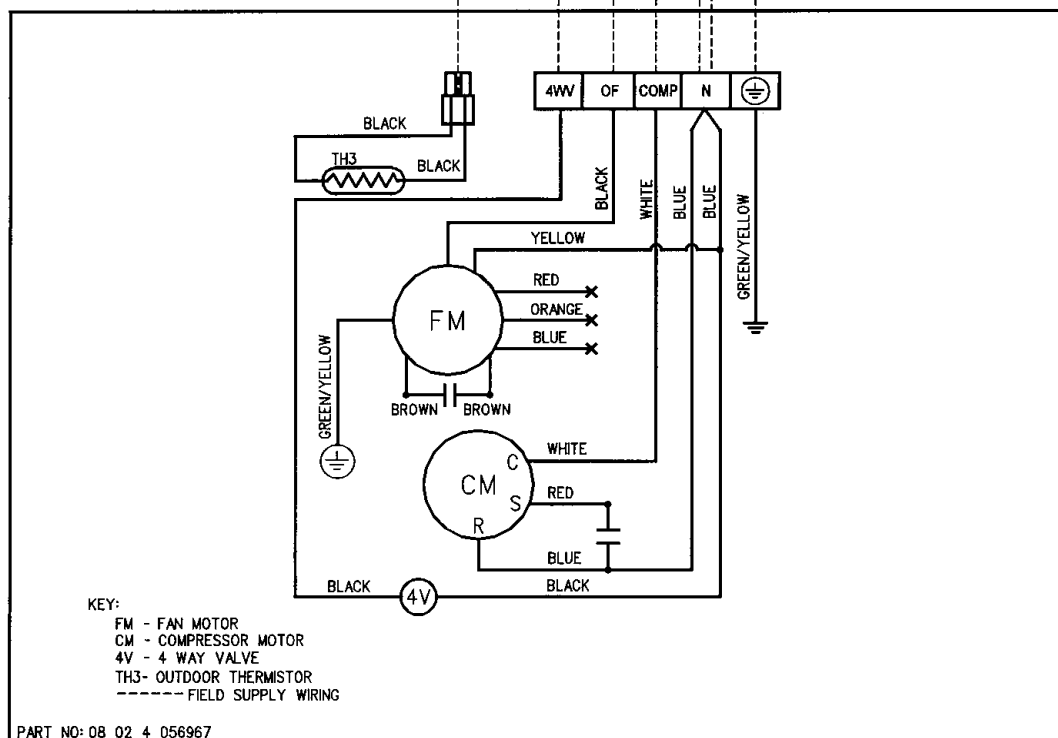
Outdoor Unit
Model : MHDC 020 / 025AR



Indoor Unit
Model : MCK 030BR



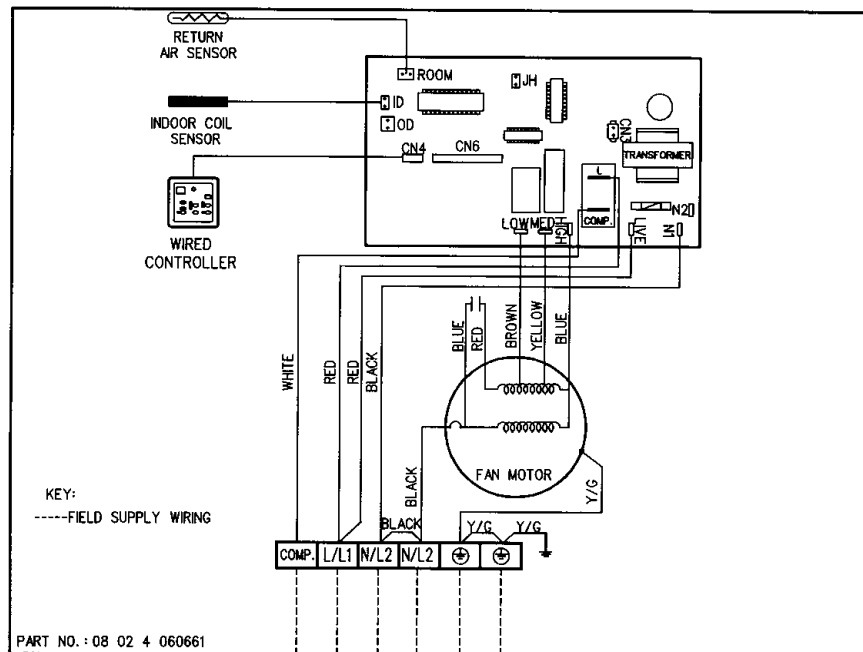
Outdoor Unit
Model : MHDC 030AR



Ceiling Concealed

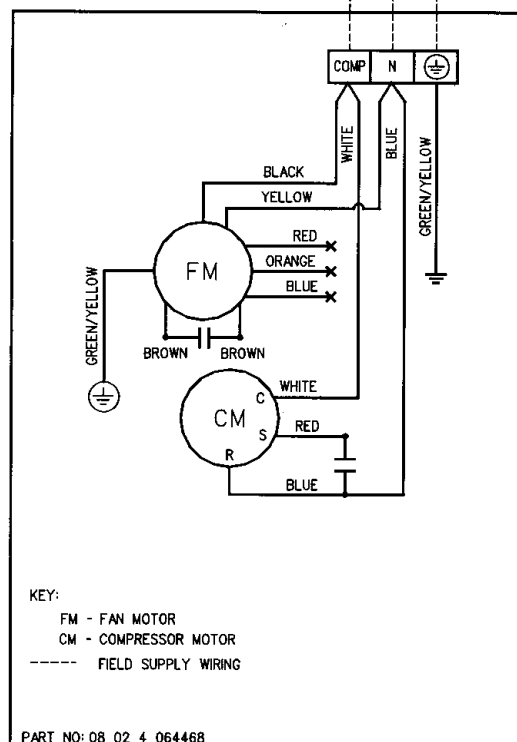
Indoor Unit

Model : MCC 020 / 025C

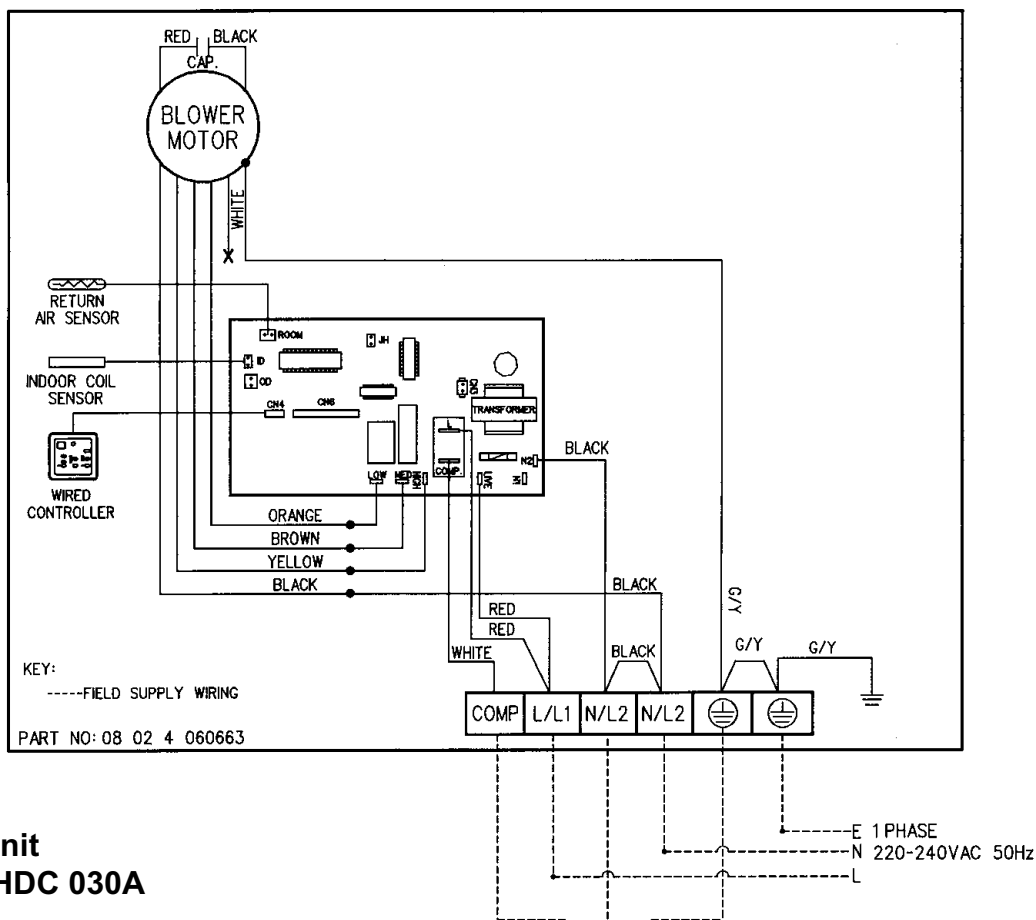


Outdoor Unit

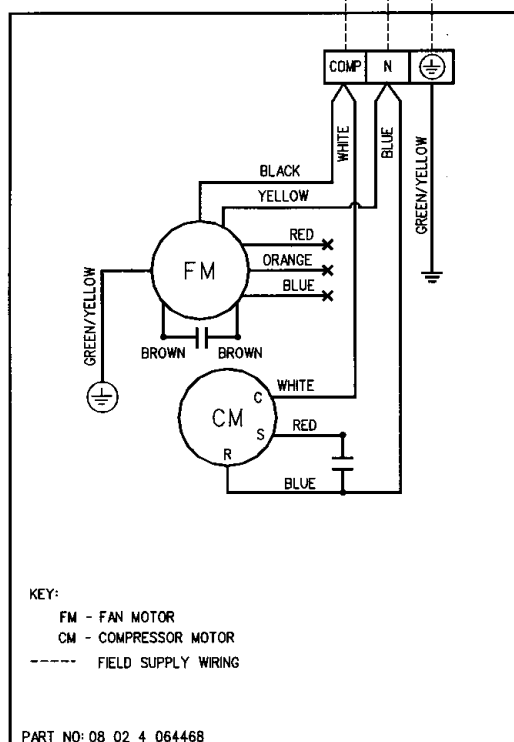
Model : MHDC 020 / 025A



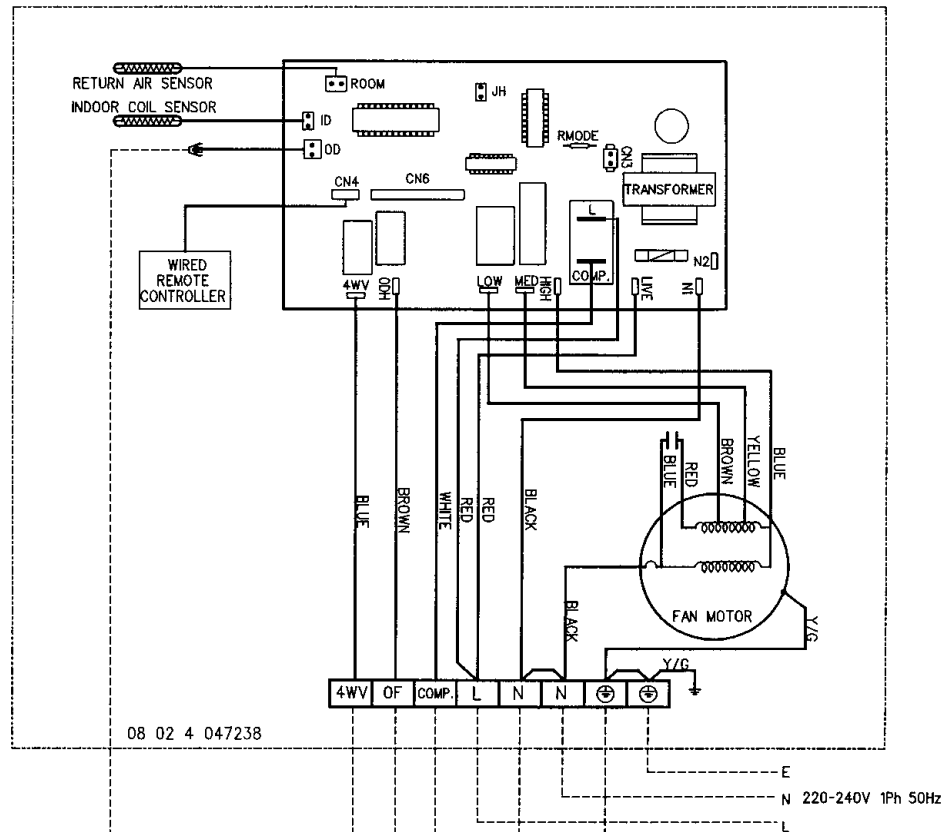
Indoor Unit
Model : MCC 030C
 (For export spec. With SLM control U1.4)



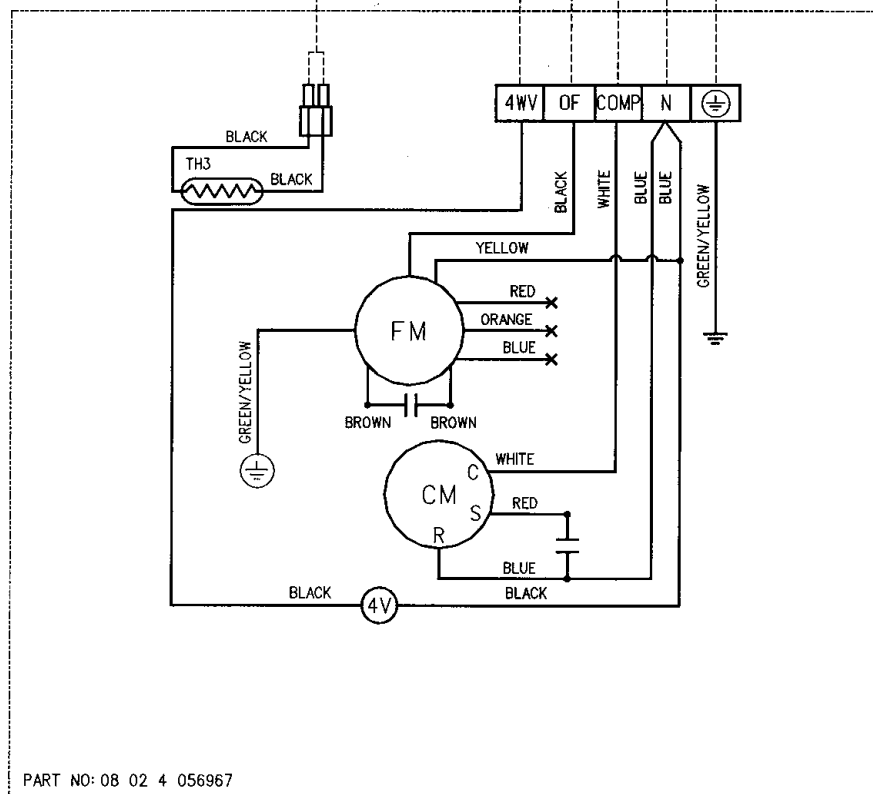
Outdoor Unit
Model : MHDC 030A



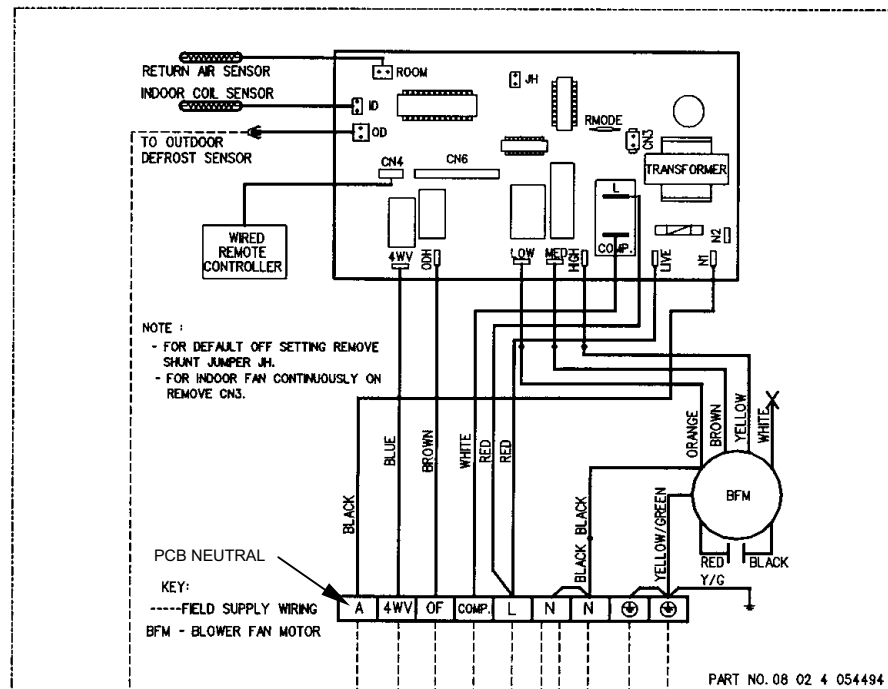
Indoor Unit
Model : MCC 020 / 025CR



Outdoor Unit
Model : MHDC 020 / 025AR

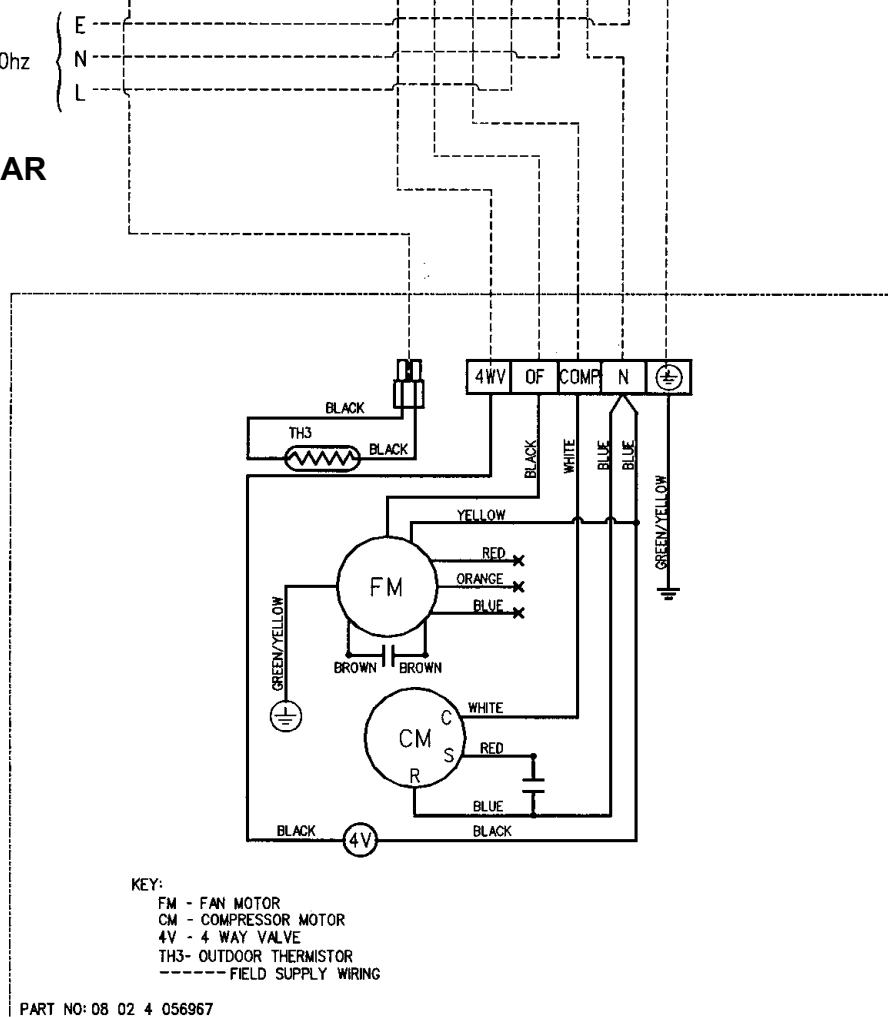


Indoor Unit Model : MCC 030CR



Outdoor Unit Model : MHDC 030AR

220-240V 1Ph 50hz



Installation



Caution

Sharp edges and coil surfaces are potential injury hazard. Avoid from contact with them.

(1) Installation Of Indoor Unit

For installation of indoor unit, please refer to the indoor unit technical manual.

(2) Installation Of Outdoor Unit

The outdoor unit has to be installed as per recommended installation clearance (Diagram A)

Make sure that the location is suitable for piping and drainage.

Precaution steps as below :

- i) Use the hanging bracket supplied with the unit.
- ii) Ensure the support is strong enough to withstand the weight of the unit.
- iii) Incline the drain pipe as per diagram B. Do not install drain trap to the drain pipe, this is to prevent blockage of drain pipe during heat mode when defrost is in operation.
- iv) After completion of drain piping, confirm the drainage is good and there are no leaks.

Diagram A

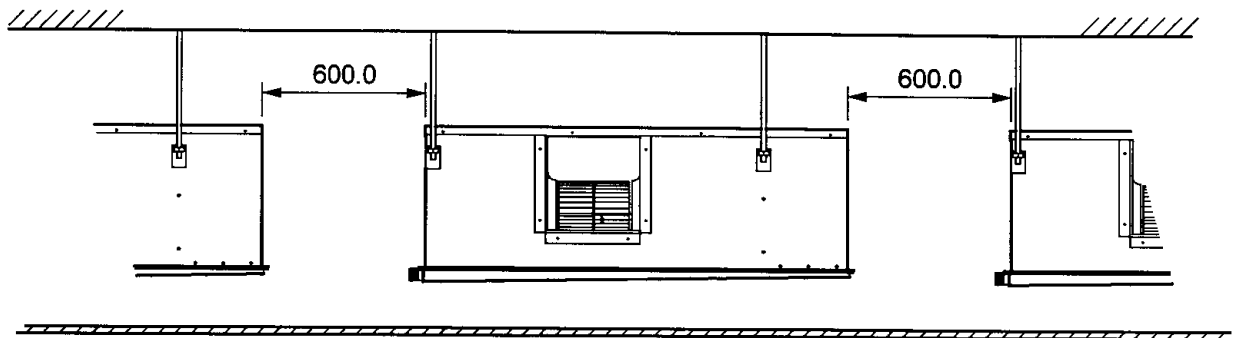
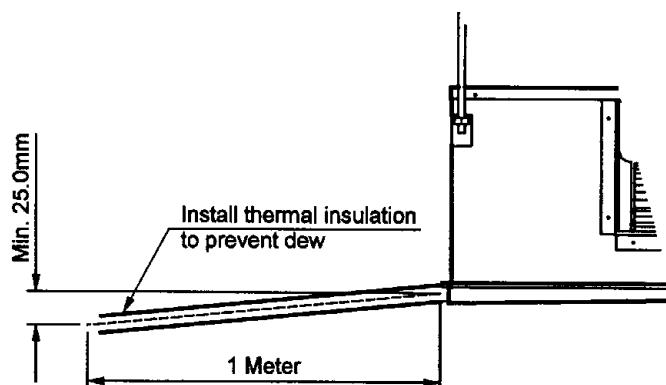


Diagram B



(3) Refrigerant Piping

Maximum Pipe Length And Maximum Number Of Bends

- When the pipe length becomes too long, both the capacity and reliability drop. As the number of bends increases, system piping resistance to the refrigerant flow increases, thus lowering the cooling capacity, and as the result the compressor may become defective. Always choose the shortest path and follow the recommendation as tabulated below:

| MODEL | MHDC020A/AR | MHDC025A/AR | MHDC030A/AR |
|-------------------|-------------|-------------|-------------|
| Max. Length, L | 15 m | 15 m | 15 m |
| Max. Elevation, H | 8 m | 8 m | 8 m |
| Max. No. of bends | 10 | 10 | 10 |

Piping Sizes (Flare Connection Type)

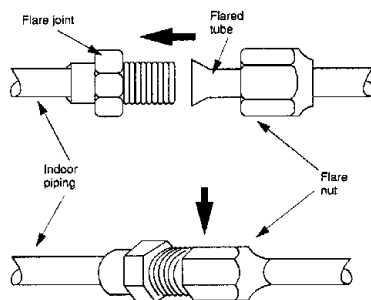
- Piping sizes are as follows:

| MODEL | MHDC020A/AR | MHDC025A/AR | MHDC030A/AR |
|-----------------|-------------|-------------|-------------|
| Liquid (mm/in) | 6.35 (1/4) | 9.52 (3/8) | 9.52 (3/8) |
| Suction (mm/in) | 15.88 (5/8) | 15.88 (5/8) | 15.88 (5/8) |

Piping Connection To The Units

- Align the center of the piping and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

| PIPE SIZE (mm/in) | TORQUE (Nm) |
|-------------------|-------------|
| 6.35 (1/4) | 18 |
| 9.53 (3/8) | 42 |
| 15.88 (5/8) | 65 |



(4) Wiring

Wiring Electrical Connections

- Wiring regulations on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installation comply with such rules and regulations.

General Precautions

- Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.
- Provide a power outlet to be used exclusively for each unit. A power supply disconnect and a circuit breaker for over-current protection should be provided in the exclusive line.
- The unit must be **GROUND**ED to prevent possible hazards due to insulation failures.
- All wiring must be firmly connected.
- All wiring must not touch the hot refrigerant piping, compressor or any moving parts of fan motors.

(5) Vacuuming And Charging

- The precharged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor need to be vacuumed before releasing refrigerant from the outdoor unit.
 - Open the service port core cap.
 - Connect pressure gauge to the service port.
 - Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on. Vacuum to -0.1 MPa (-760 mmHg) or lower. (Evacuation time varies by the pump but averagely in 1 hour).

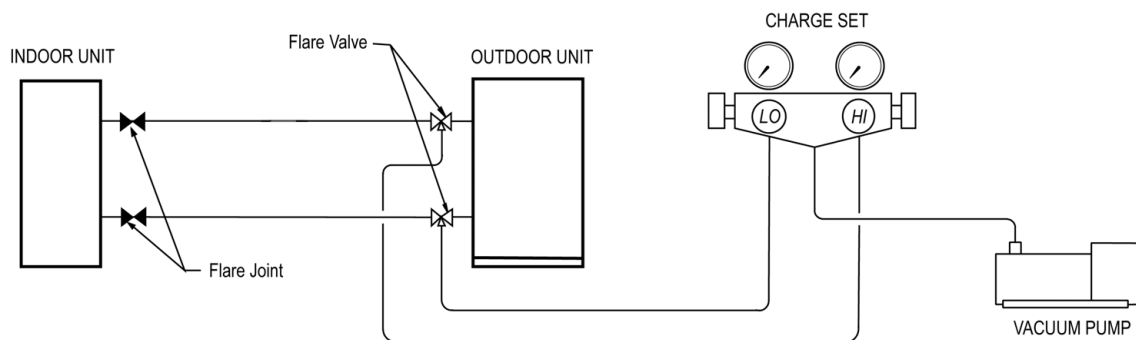


Diagram 1

- After evacuation, unscrew the spindle (diagram 2) for the gas to run to indoor unit.

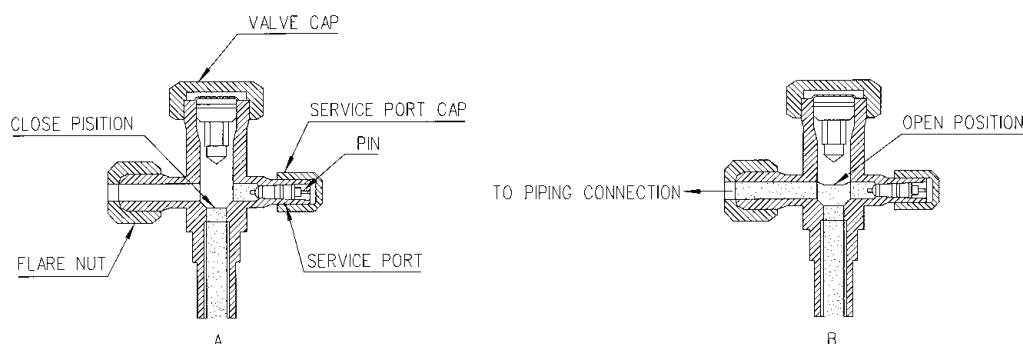
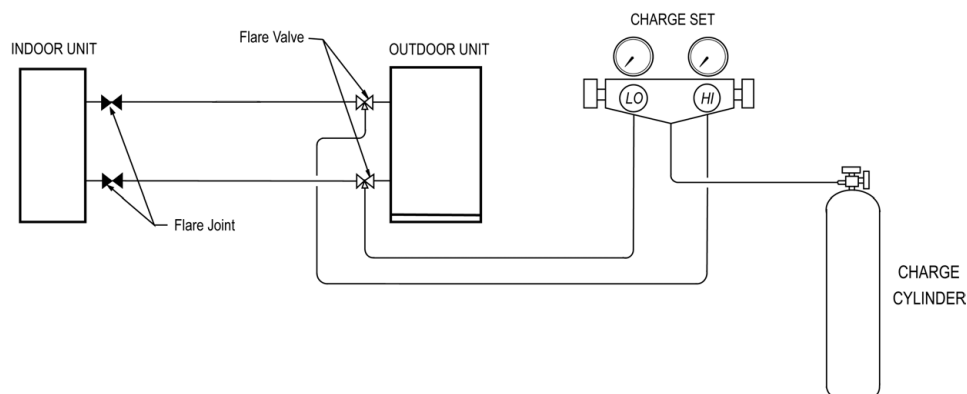


Diagram 2

(6) Additional Charge

- The refrigerant gas has already charged into the outdoor unit. For the piping length of 5m. Additional refrigerant charge after vacuuming is not necessary.
- When the piping length is more than 5m, please use the table below (unit in gram).

| MODEL | 7m | 10m | 15m |
|-------------|----|-----|-----|
| MHDC020A/AR | 40 | 100 | 200 |
| MHDC025A/AR | 80 | 200 | 400 |
| MHDC030A/AR | 90 | 225 | 450 |



(7) Overall Checking

- Ensure the following, in particular :
 - 1) The unit is mounted solidly and rigid in position.
 - 2) Piping and connections are leak proof after charging.
 - 3) Proper wiring has been done.
- Drainage check - pour some water into drain pan.
- Test run
 - 1) Conduct a test run after water drainage test and gas leakage test.
 - 2) Watch out for the following :
 - a) Is the electric plug firmly inserted into the socket?
 - b) Is there any abnormal sound from unit?
 - c) Is there any abnormal vibrations with regard to unit itself or piping?
 - d) Is there smooth drainage of water?
- Check that :
 - 1) Outdoor blower is running, with warm air blowing off the discharge grille (cooling cycle).
 - 2) Indoor blower is running and discharge cool air (cooling cycle).
 - 3) Suction (low side) pressure as recommended.
 - 4) The remote controller incorporate a 3 minute delay in there circuit. Thus, it requires about 3 minutes before the outdoor unit can start up.

(8) Standard Operating Condition

Cooling Only

| Temperature | Ts °C | Th °C |
|-----------------------------|-------|-------|
| minimum indoor temperature | 19.4 | 13.9 |
| maximum indoor temperature | 26.7 | 19.4 |
| minimum outdoor temperature | 19.4 | 13.9 |
| maximum outdoor temperature | 46.0 | 24.0 |

Heat Pump Unit

| Temperature | Ts °C | Th °C |
|-----------------------------|-------|-------|
| minimum indoor temperature | 15.0 | - |
| maximum indoor temperature | 26.7 | - |
| minimum outdoor temperature | - 2.0 | - 3.0 |
| maximum outdoor temperature | 24 | 18 |

Ts : Dry bulb temperature
Th : Wet bulb temperature

Servicing And Maintenance



Warning

Disconnect from Main Supply before Servicing the air conditioner

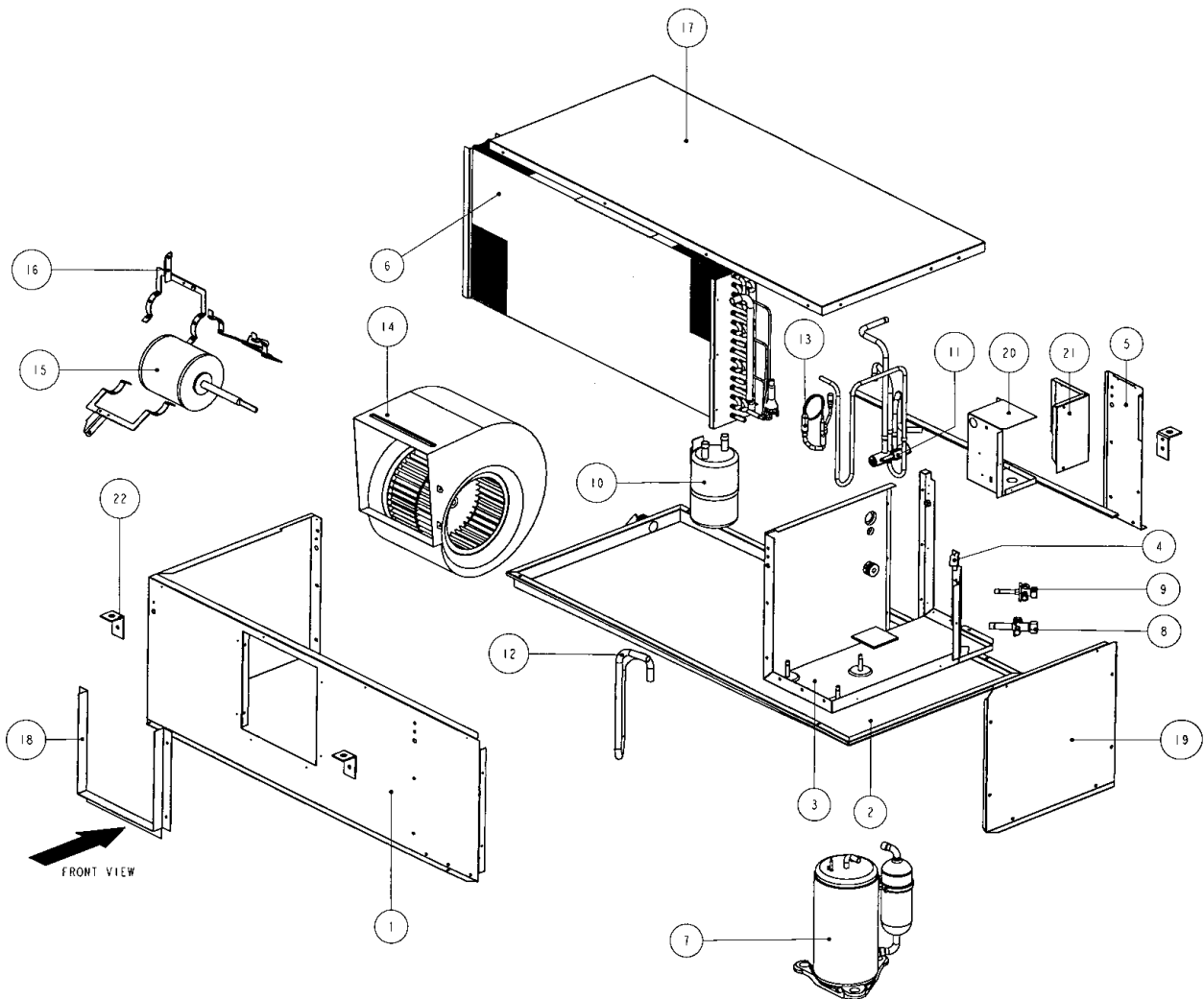
The unit is designed to give a long life operation with minimum maintenance required. However, it should be regularly checked and the following items should be given due attention.

| Components | Maintenance Procedure | Recommended Schedule |
|-----------------------------|--|--|
| Air Filters | <ol style="list-style-type: none"> 1. Clean with a vacuum cleaner, or by tapping lightly and then washing in lukewarm water (below 40°C) With neutral soap. 2. Rinse well to dry before re-installing. 3. Note : Never use petrol, thinner, benzene or any other chemicals. | Every 2 weeks. More frequently if required. |
| Indoor Unit | <ol style="list-style-type: none"> 1. Clean away dirt or dust on grille or panel by wiping with a soft cloth soaked in lukewarm (or cold) water or neutral detergent solution. 2. Note: Never use petrol, thinner, benzene or any other volatile chemicals, which may cause plastic surface to deform. | Every 2 weeks. More frequently if required. |
| Condensate Drain Pan & Pipe | <ol style="list-style-type: none"> 1. Check and clean. | Every 3 months. |
| Indoor Fan | <ol style="list-style-type: none"> 1. Check for unusual noise. | As necessary. |
| Indoor/Outdoor Coil | <ol style="list-style-type: none"> 1. Check and remove dirt which are clogged between fins. 2. Check and remove obstacles which hinder air flow in and out of indoor/outdoor unit. | Every month. Every month. |
| Electrical | <ol style="list-style-type: none"> 1. Check voltage, current and wiring. 2. Check faulty contacts caused by loose connections, foreign matters, etc. | Every 2 months. Every 2 months. |
| Compressor | <ol style="list-style-type: none"> 1. No maintenance needed if refrigerant circuit remains sealed. However, check for refrigerant leak at joints & fittings. | Every 6 months. |
| Compressor Lubrication | <ol style="list-style-type: none"> 1. Oil is factory charged. Not necessary to add oil if circuit remains sealed. | No maintenance required. |
| Fan Motors Lubrication | <ol style="list-style-type: none"> 1. All motors pre-lubricated and sealed at factory. | No maintenance required. |

Pre-Start Up Maintenance (After Extended Shutdown)

- Inspect thoroughly and clean indoor and outdoor units.
- Clean or replace air filters.
- Clean condensate drain line.
- Clean clogged indoor and outdoor coils.
- Check fan imbalance before operation.
- Tighten all wiring connections and panels.
- Check for refrigerant leakage.

Most of the parts are accessible by removal of bottom & side panel.



Troubleshooting

When any air-conditioner malfunction is noted, immediately switch off the power supply to the unit, and contact the local dealer, if necessary. Some simple troubleshooting tips are given below :

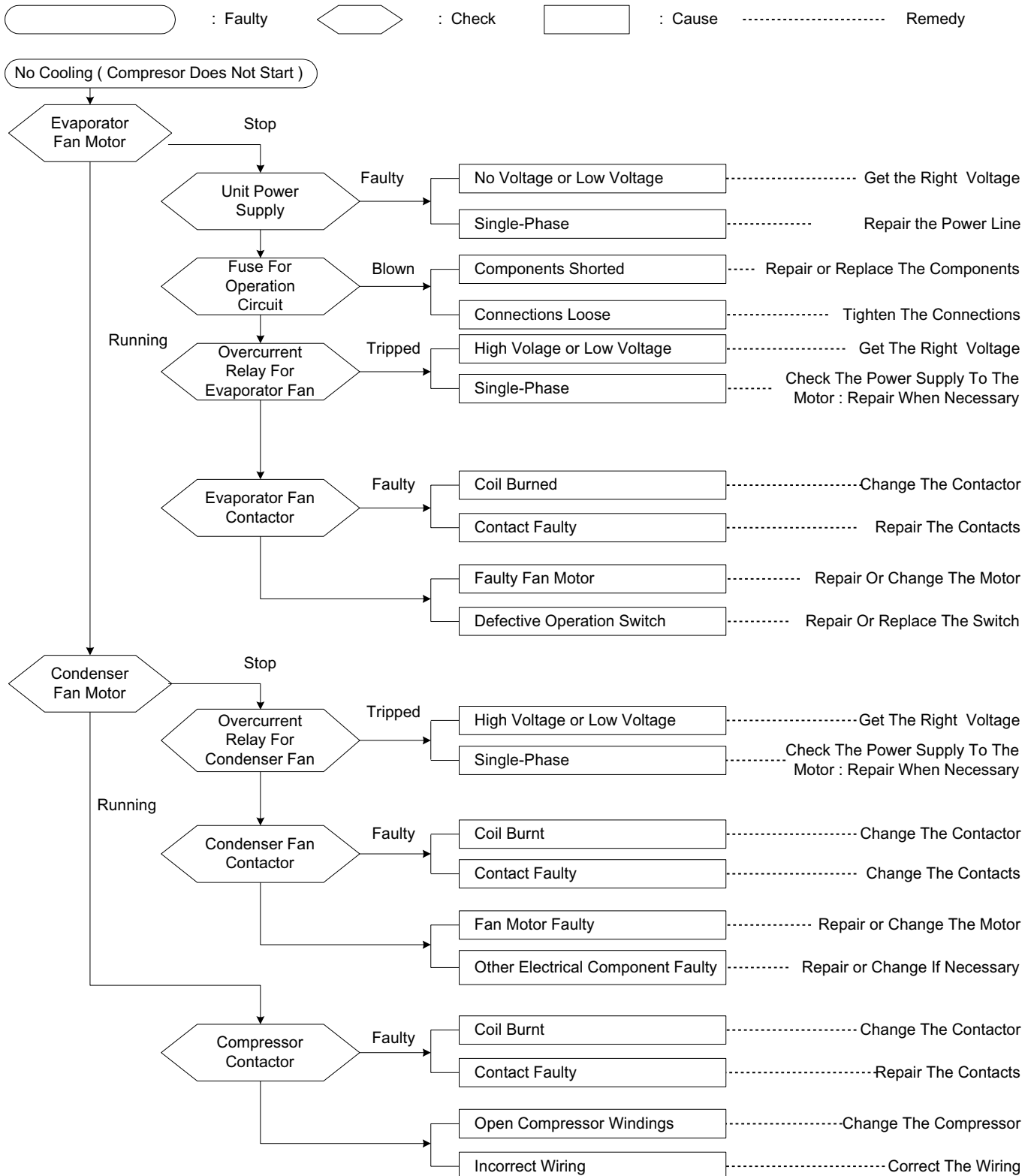
| FAULT | CAUSE |
|---|--|
| 1. Fan does not work 3 minutes after starting | <ul style="list-style-type: none"> • Protection against the frequent starting. Wait 3 or 4 minutes. |
| 2. The air conditioning unit does not work | <ul style="list-style-type: none"> • Power failure or need to replace the fuse. • The power plug is disconnected. • Possibility of making a programming error in the controller. • If the fault persist after these verifications, contact your installer. |
| 3. The air conditioning unit does not blow sufficiently | <ul style="list-style-type: none"> • The air filter is dirty. • The doors or windows are open. • The air entrance and exit are clogged. • The regulate temperature is not high enough. |
| 4. The remote control light is deficient | <ul style="list-style-type: none"> • The batteries are discharge. • The batteries are not correctly inserted. • The assembly is not good. |
| 5. Air discharge flow has a bad odor | <ul style="list-style-type: none"> • This odor can be caused by cigarette smoke particles, perfume, sweat, which stick to the coil. • Check if there is any moisture on the walls, garment, other. • Check the drain pan. |
| 6. Condensation on the air grille of indoor unit | <ul style="list-style-type: none"> • This is due to air humidity after a long time of operation. • The unit has a lower temperature point, increase the point and operate at high speed. |
| 7. The water flow of air conditioning unit | <ul style="list-style-type: none"> • Check the condensate evacuation. |
| 8. The air conditioning unit are noisy | <ul style="list-style-type: none"> • "Air flow noise" : refrigerant fluid admission in evaporator. |

For Cooling Only Models Or Heat Pump Models (Cooling Cycle)

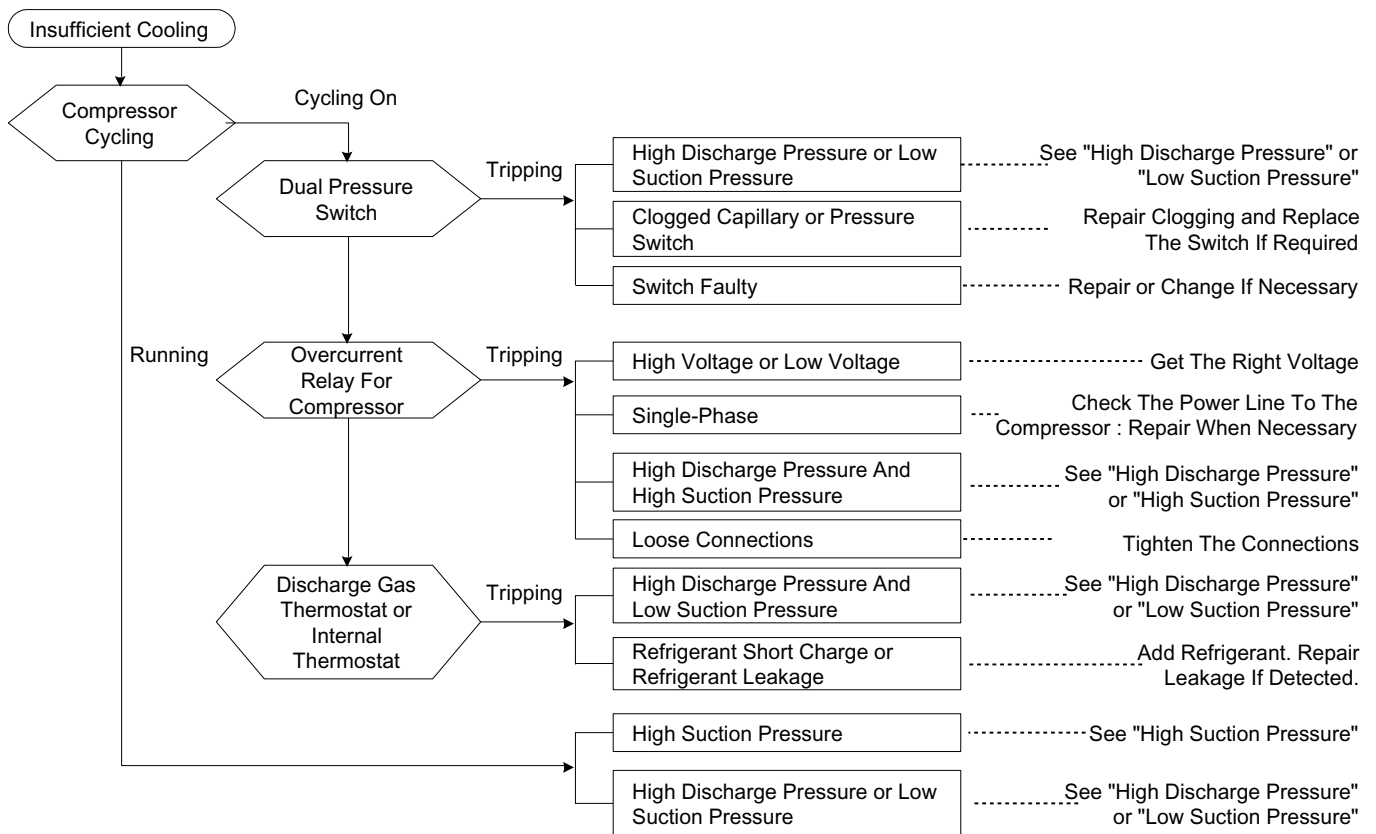
Diagnosis By Flow Chart

The following chart are efficient checking procedures for troubleshooting when these fan-coil units, are coupled with the condensing units using standard wiring. For dual circuited models, perform the procedures for each circuit.

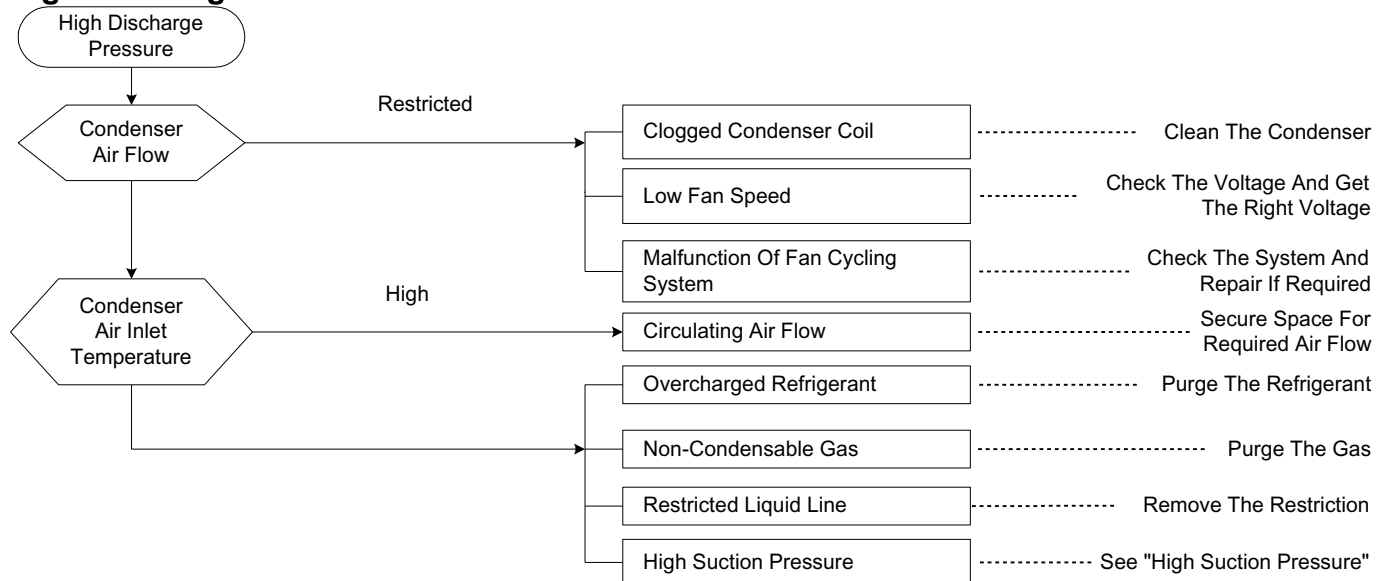
No Cooling



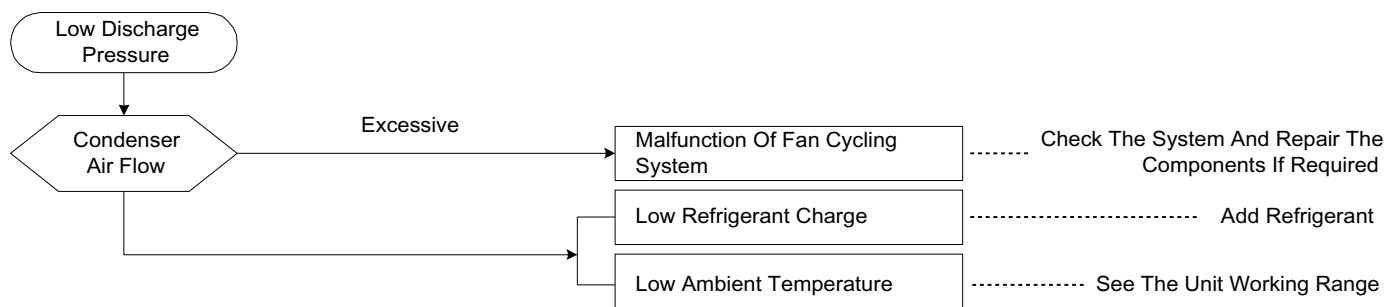
Insufficient Cooling



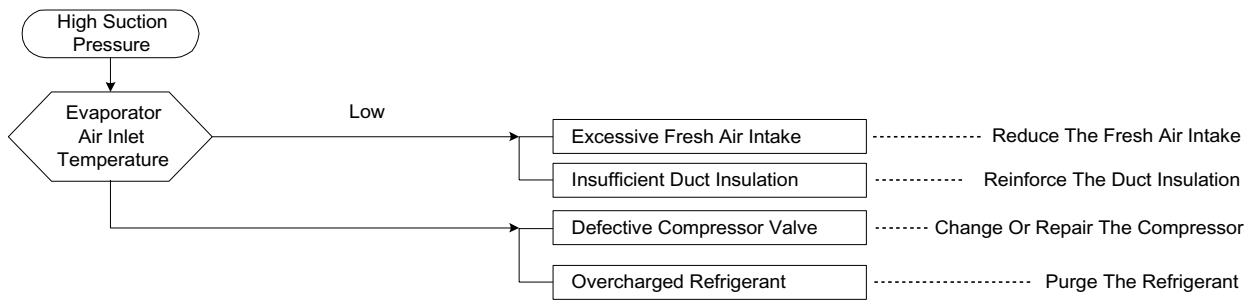
High Discharge Pressure



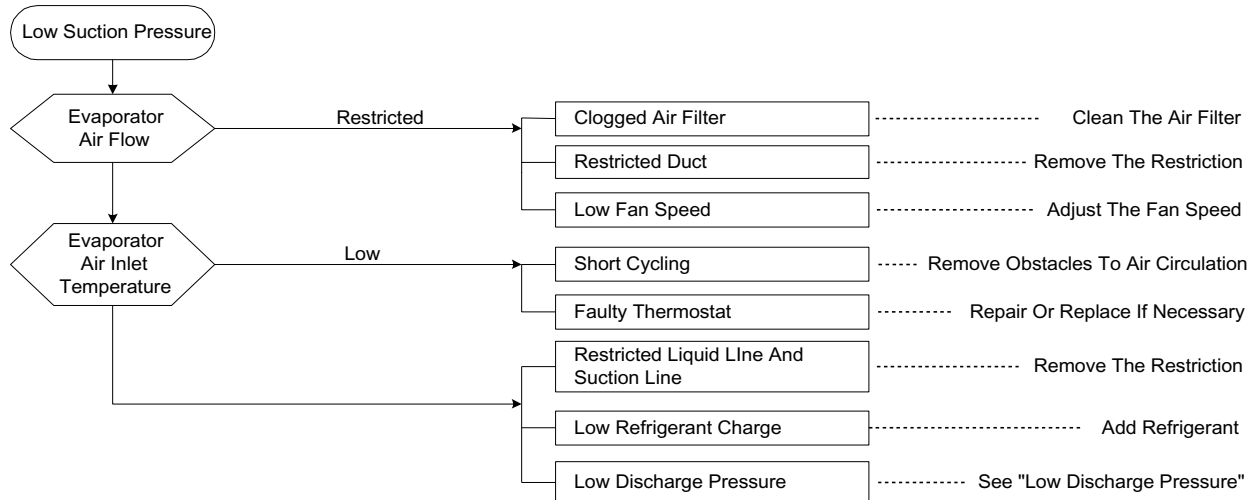
Low Discharge Pressure



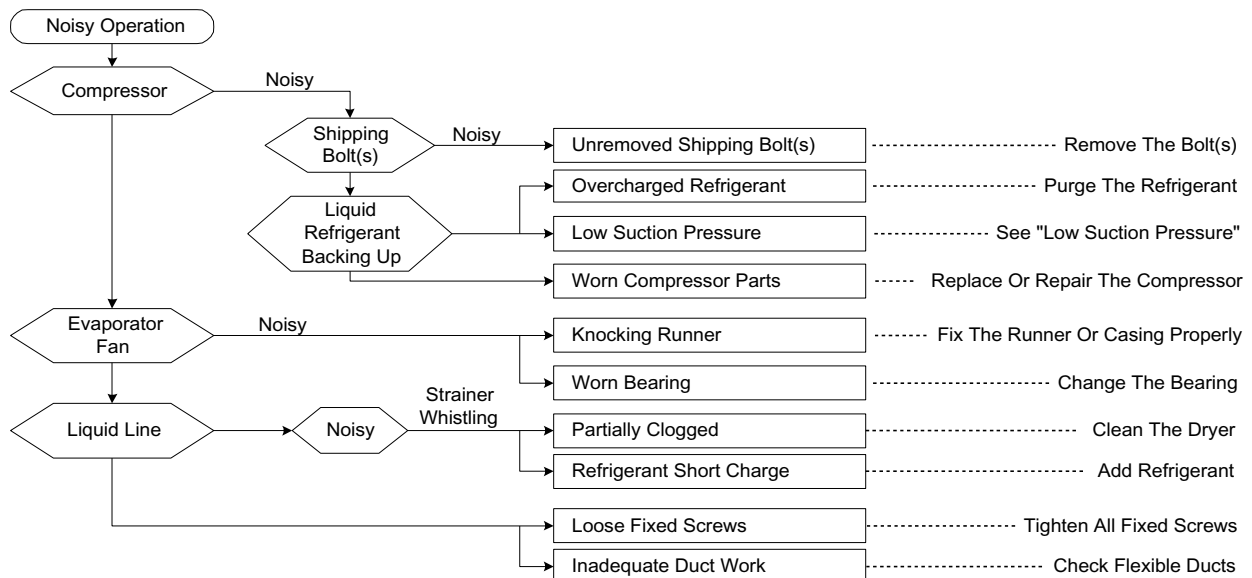
High Suction Pressure



Low Suction Pressure



Noisy Operation



For Heat Pump Models

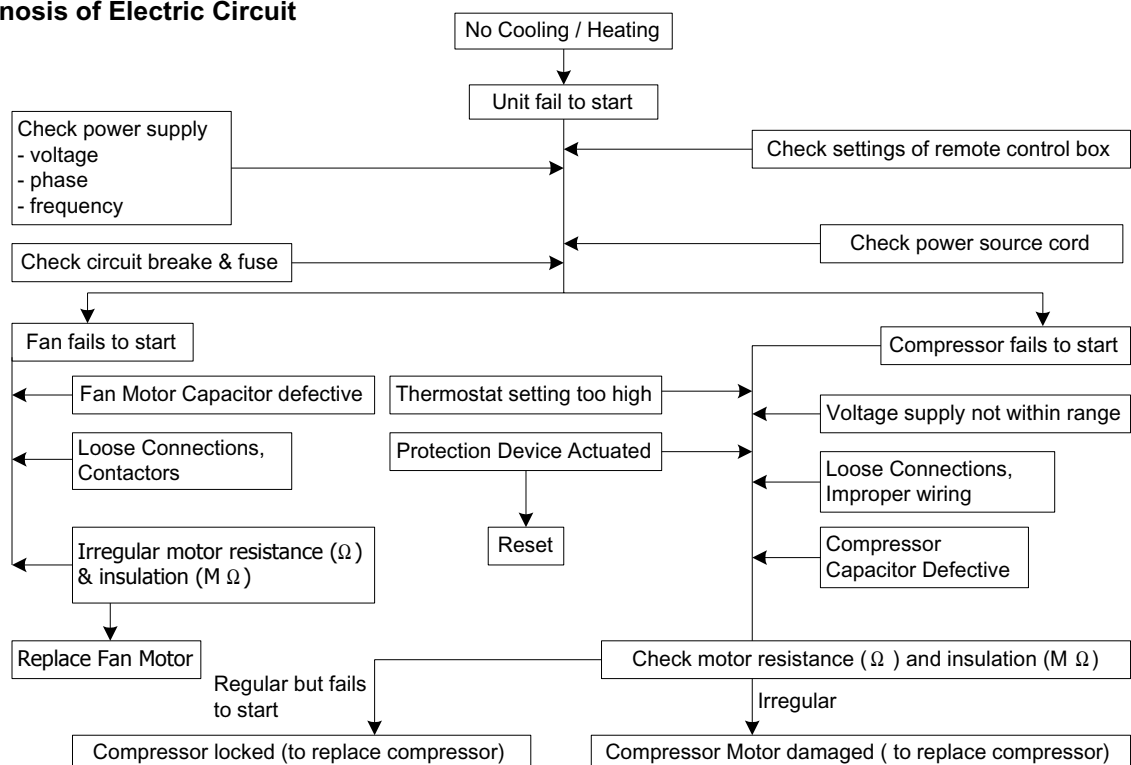
By means of pressure readings :

| PRESSURE | | | | | | PROBABLE CAUSE |
|-----------------------|---------|--------------|--------|---------------|----------|--|
| Data Circuit | Too Low | A Little Low | Normal | A Little High | Too High | |
| High Side Low Side | | | | | ● ● | 1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (e.g. oil). 3. Obstructed air-intake/discharge. 4. Short circuiting of hot air outdoor unit. |
| High Side Low Side | ● | | | | ● | 1. Poor compression/no compression (compressor defective.) 2. Check valve stick in open position. 3. Reversing valve leaking. |
| High Side Low Side | ● | ● | | | | 1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged/dirty (indoor unit). 4. Indoor fan blocked. 5. Defective defrost control, outdoor coil freeze up (heating). 6. Outdoor fan blocked (heating). |
| High Side Low Side | | | | ● | ● | 1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan blocked (heating). 4. Indoor filter clogged/dirty (heating). 5. Non-condensable gases in refrigerant circuit (e.g. air) |
| High Side Low Side | | | | ● | ● | 1. Air intake temperature of indoor unit too high. |

By Means Of Diagnosis Flow Chart

Generally, there are two kind of problems, i.e. starting failure and insufficient cooling/heating. "Starting Failure" is caused by electrical defect while "Insufficient Cooling/Heating" is caused by improper application or defects in refrigerant circuit.

i) Diagnosis of Electric Circuit

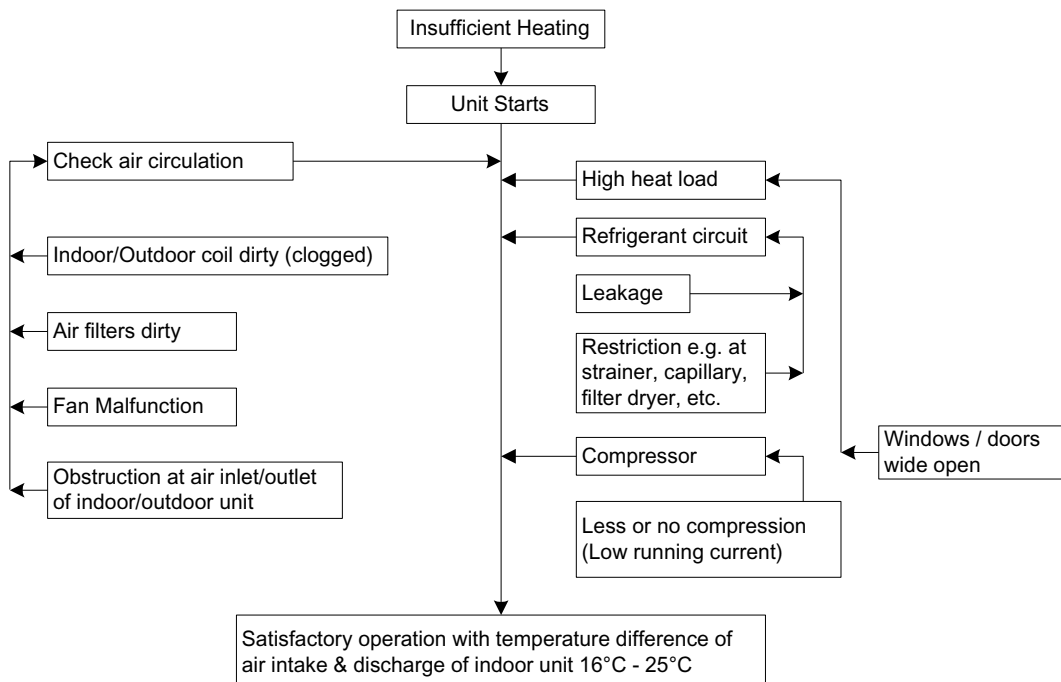
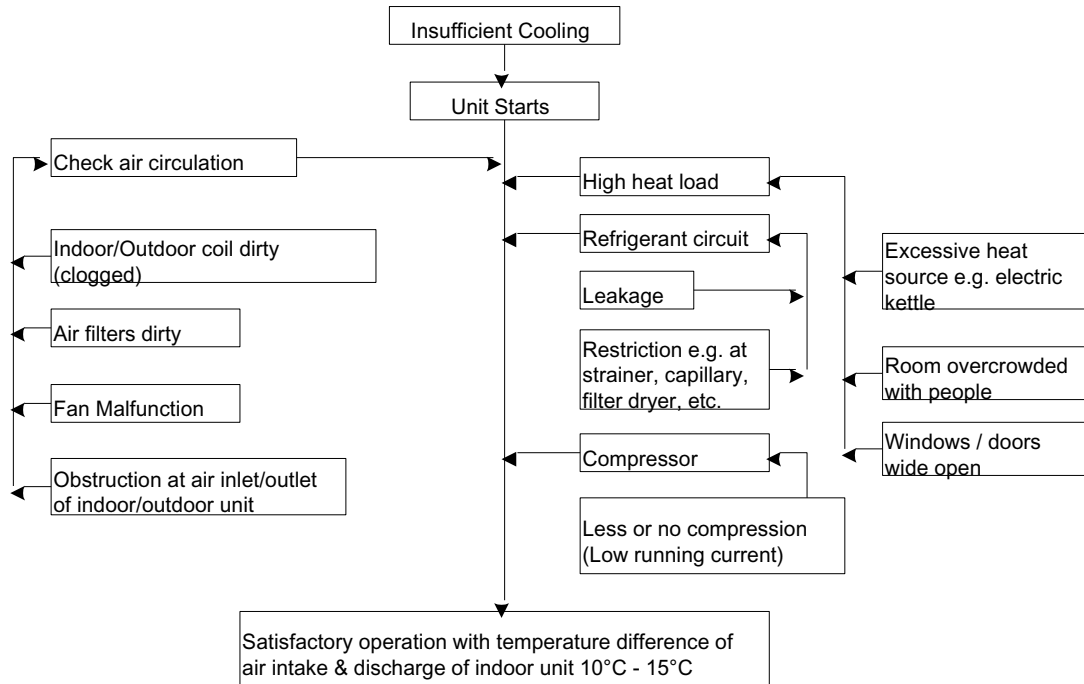


The most common causes of air conditioner failure to "start" are:

- a) Voltage not within $\pm 10\%$ of rated voltage.
- b) Power supply interrupted.
- c) Control settings improper.
- d) Air conditioner is disconnected from main power source.
- e) Fuse blown or circuit breaker off.

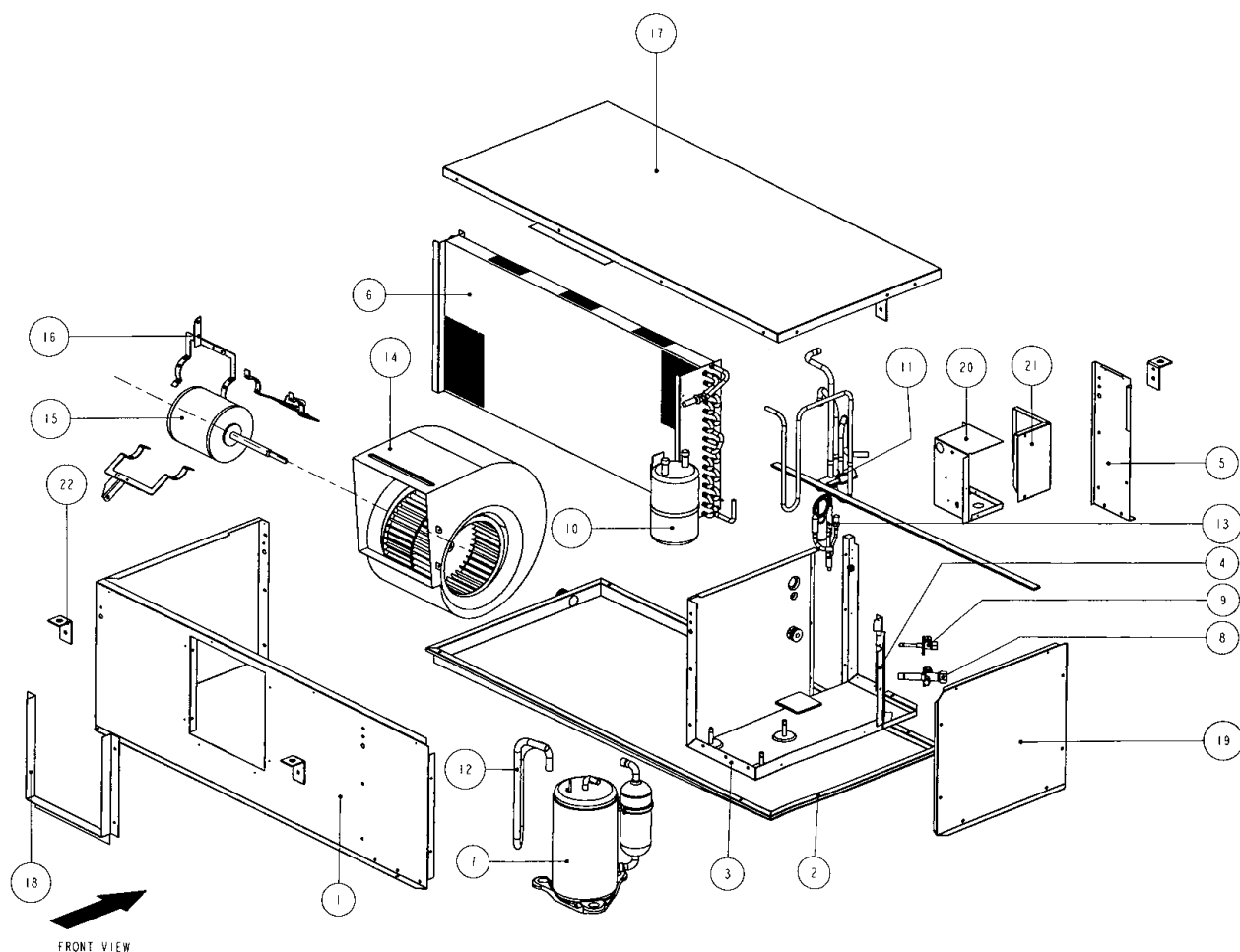
ii) Diagnosis Of Refrigerant Circuit / Application

There might be some cases where the unit starts running but does not perform satisfactory, i.e. insufficient cooling. Judgement could be made by measuring temperature difference of indoor unit's intake and discharge air as well as running current.



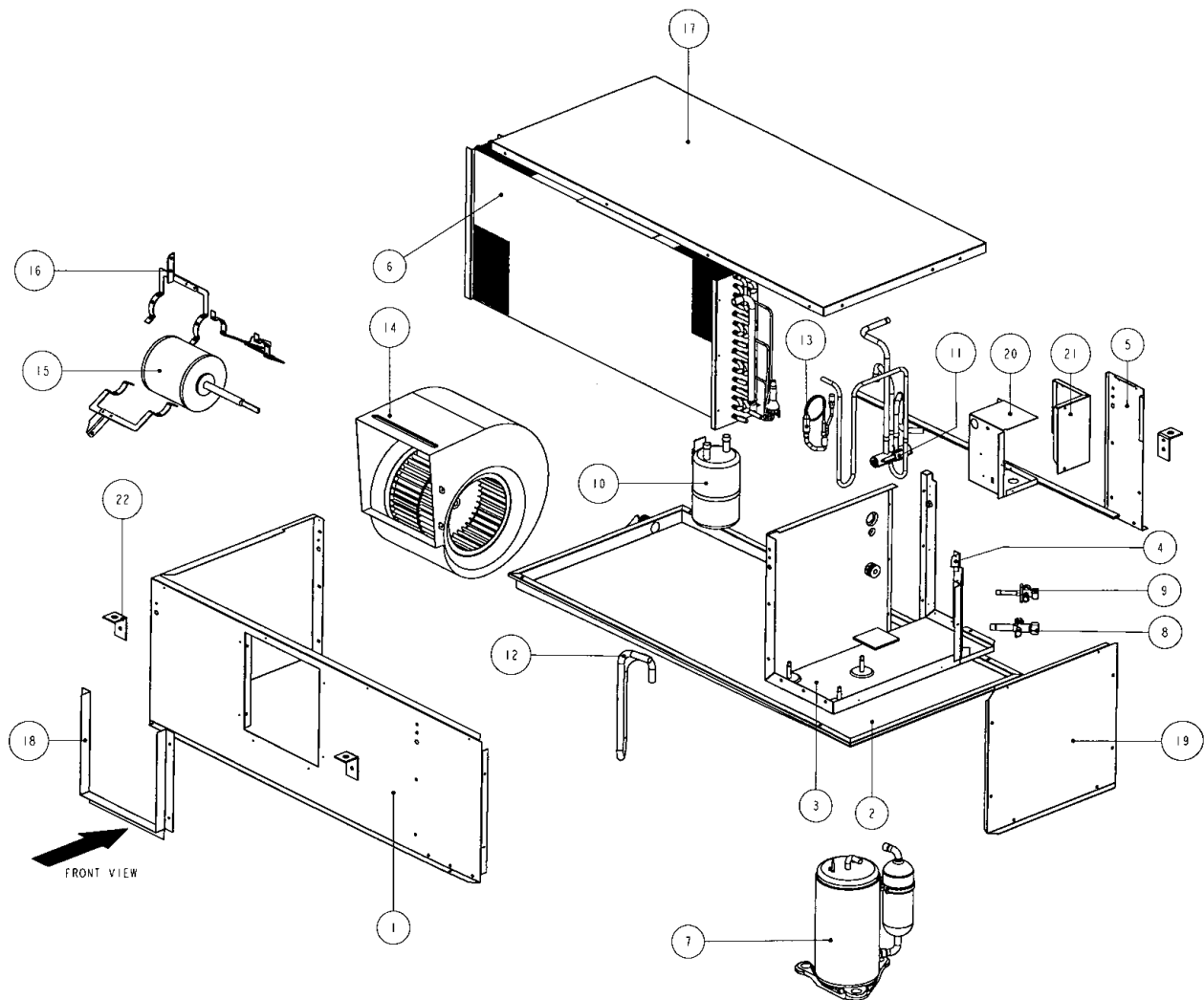
Parts List

Model : MHDC020AR



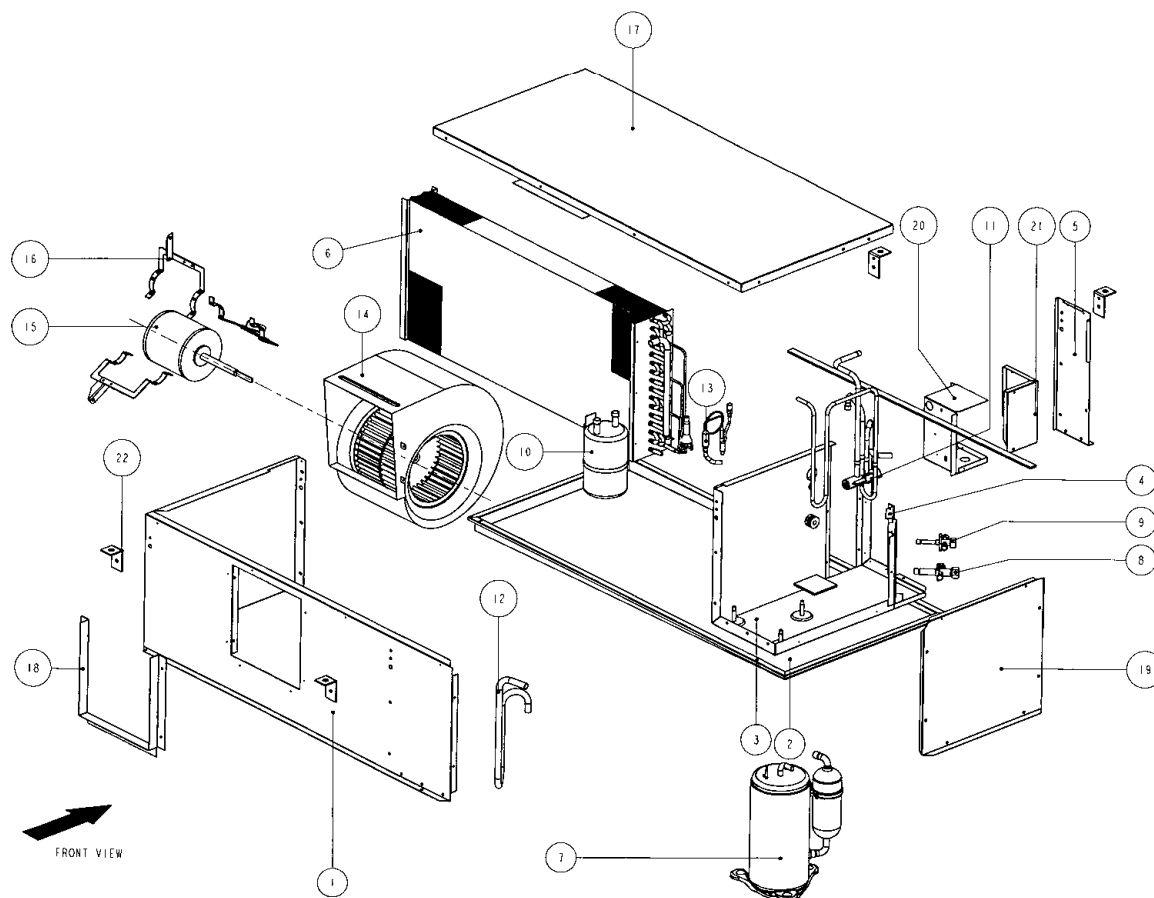
| No | Description | No | Description |
|----|--------------------|----|---------------------------------|
| 1 | Front panel | 12 | Tube (Comp. Suct. To acc. Out) |
| 2 | Drain pan assy. | 13 | Check valve assy. |
| 3 | Base panel | 14 | Blower |
| 4 | Valve plate | 15 | Motor |
| 5 | Back panel | 16 | Motor bracket |
| 6 | Coil assy. | 17 | Top panel |
| 7 | Compressor | 18 | Duct, flange |
| 8 | 3-way valve (5/8") | 19 | Service panel |
| 9 | 2-way valve (1/4") | 20 | Terminal box |
| 10 | Accumulator | 21 | Terminal box cover |
| 11 | 4-way valve | 22 | Hanging bracket |

Model : MHDC025AR



| No | Description | No | Description |
|----|--------------------|----|---------------------------------|
| 1 | Front panel | 12 | Tube (Comp. Suct. To acc. Out) |
| 2 | Drain pan assy. | 13 | Cap. tube assy. |
| 3 | Base panel | 14 | Blower |
| 4 | Valve plate | 15 | Motor |
| 5 | Back panel | 16 | Motor bracket |
| 6 | Coil assy. | 17 | Top panel |
| 7 | Compressor | 18 | Duct, flange |
| 8 | 3-way valve (5/8") | 19 | Service panel |
| 9 | 3-way valve (3/8") | 20 | Terminal box |
| 10 | Accumulator | 21 | Terminal box cover |
| 11 | 4-way valve | 22 | Hanging bracket |

Model : MHDC030AR



| No | Description | No | Description |
|----|--------------------|----|---------------------------------|
| 1 | Front panel | 12 | Tube (Comp. Suct. To acc. Out) |
| 2 | Drain pan assy. | 13 | Cap. tube assy. |
| 3 | Base panel | 14 | Blower |
| 4 | Valve plate | 15 | Motor |
| 5 | Back panel | 16 | Motor bracket |
| 6 | Coil assy. | 17 | Top panel |
| 7 | Compressor | 18 | Duct, flange |
| 8 | 3-way valve (5/8") | 19 | Service panel |
| 9 | 3-way valve (3/8") | 20 | Terminal box |
| 10 | Accumulator | 21 | Terminal box cover |
| 11 | 4-way valve | 22 | Hanging bracket |

